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Long Life and How to Attain It

CICERO said: "If one would be old long let him be old betimes."

Youth is the period for expenditure, for progress, for expansion. During these palmy days the energies are ebullient and demand opportunity. The vital resources throng to the outlets and burst through restraint. The limbs outgrow their garments. There is a Force, a Power, in youth, that has not as yet marked out its limits, and the possibilities seem so boundless that the world cries exultantly: "Room! Room for the giant! Let him have his chance, his full chance, to show us the fulfilment of his wildest dreams, if the power of realization be within him."

There is no drain on his faculties as yet, but only a squandering of a troublesome surplus, perhaps only the exercise necessary to the healthy development of his dormant powers.

The middle period comes. The force of the current is yet there, but it flows quietly, albeit the channel is deep. The man's place is fixed, his worth has been tested, his capabilities are gauged. Rarely comes opportunity to the man who has failed to distinguish himself before fifty. Men have learned to step aside if he is the stronger, to jostle him fearlessly if he is the weaker. There are no mysterious, unknown possibilities to induce caution. He seeks not so much to expand his interests as to conserve his acquisitions; he looks to defensive limits instead of opportunities for aggression.

Wise is he who heeds the advice of the Roman sage, and as the era of conservation comes on, seeks to apply it to his bodily forces as well as to his business interest. There is nothing more pitiful than to see an aged man feebly endeavoring to establish himself in enterprises he might have attempted forty years before, and squandering the nervous energies which, properly conserved, would sustain his vitality for many a happy year. The wise man knows when he has had enough—but who among us is wise? Not "the other fellow," surely—we can clearly see the unwisdom of *his* course. But, then, *we* are different, of course. Curiously enough, *he* thinks he sees the folly of *our* plans but is totally unconscious of his own.

Gnothi seauton! "Know your own self," old man, and live in the posterity you have given the world. Act through the lusty sons and the blooming daughters through whom you live on and on forever. Let the powers

of which you are conscious act through them, and with the impetus their own ebullient youth can add. But study above all to appreciate to the last penny the amount of your vital capital and to preserve it from waste and rust, from thief and cajoler. Vitality is an asset that increases in value with every year, with its own decrease. It is to be hoarded as the miser hoards gold; to be managed as the ship-wrecked sailor spins out his lessening supply of food. We should study to make it go as far as possible, as the dry-farmer studies to preserve and utilize to the utmost every drop of his scanty rainfall.

To the doctor this means cultivating the stores of knowledge gathered from experience while utilizing the sturdy young legs of the juniors. Every doctor above fifty should associate with him a young partner, who may learn from, and save, his senior. The association is good for both in every way. The two can do better work and earn more money together than as competitors.

Every honest conviction, held by anyone, contains a truth and a lesson for everyone. And the way to derive the good is to treat it with mingled courtesy and caution, wearing neither horns nor a tether.

OLD DRUGS AND NEW DRUGS

In *Merck's Archives* for January Beverly Robinson contributes an interesting paper on "Drugs and Formulæ: A Word about the Old and the New." He calls attention to the fact that certain drugs formerly much esteemed, and rightly, have largely disappeared from practice. This applies also to formulas some of which have permanently established themselves in the affections of the profession and are employed as therapeutic entities rather than with regard to their separate ingredients.

The reasons for the neglect of some of these remedies are, in the first place, that many physicians do not familiarize themselves with what their predecessors accomplished, at least in actual practice. Then there is the tendency to look upon any newly introduced drug as superior to that which has gone before.

Doctor Robinson takes for his first example opium. Morphine has largely taken its place, and for emergency, quick effect, the hypodermic syringe certainly is invaluable. Nevertheless, if we wish to use this remedy to subdue inflammation he agrees with Alonzo Clark in preferring opium. Further, he believes that even now many a case of appendicitis would be saved from operative interference if castor oil and opium were wisely administered.

For another illustration he mentions quinine. Some cases of malaria do not yield satisfactorily to quinine, but in some of these he has had remarkable success from the use of the cinchona bark. Even yet men desirous of useful knowledge may with advantage read Huxham's treatise, and after perusing it turn to "Huxham's tincture of bark" with faith that will be amply justified by the results.

In this connection we will remark that in Reynolds' "Practice," some twenty years ago, were given the details of experiments made with the four leading alkaloids, or rather the best-known alkaloids, of cinchona as compared with cinchona itself. These showed that the bark gave rather a better average of cures with malaria than did either of the alkaloids. Nevertheless the disadvantages attaching to the administration of an ounce-dose of powdered bark were such that at the present time it is practically forgotten and we rely on quinine exclusively, that is, we think we do; but, perhaps, were we to apply the tests for quinidine, cinchonine and cinchonidine to our supposed quinine we might be edified and astounded.

In fevers, especially those of obscure source and origin, or even in marked and well-known typhoid fever, Dr. Robinson rarely gives any of the newer antifebricitants, still relying upon the innocent and very useful spirit of Mindererus. Similarly he employs alone or combined with the former spirit of nitrous ether. With children, and at the initial stage of what seems to be an ephemeral fever he employs aconite, but not otherwise.

In the treatment of inflammatory disorders of the respiratory tract, besides tuber-

culosis, he believes that no other remedy equals beechwood creosote. Of course, like other remedies it should be given properly to obtain the best effects. This means small or very moderate doses, frequently repeated, in solution, and appropriately combined.

There is something about Beverly Robinson's writings that always impresses us. They come with a directness which appeals to us. They are always based on a profound belief, and this on a long experience in practice and teaching, which renders every word he utters of importance. We rarely find anything in his writings with which we do not heartily agree. While our own experience has led us to extend the sphere of aconitine much beyond that which Dr. Robinson attributes to aconite, yet so far as he goes with the matter it harmonizes with our own views, that is, each is particularly advantageous when given in the initial stages of disease, before material lesions have had time to occur. Especially is this influence manifested in the group of inflammations which occur from catching cold. Nothing so quickly relaxes vascular spasm as aconitine and thus puts an end to an attack which otherwise undoubtedly would have entailed a prolonged and serious disorder.

Dr. Robinson's contention that the action of the crude drug cannot be exactly replaced by a single alkaloid derived from it, and the therapeutics of the crude drug transferred bodily to the alkaloid, is one with which we heartily agree. We have repeatedly called attention to this matter, but the superficial reader, who erects a man of straw, which he may whack to his heart's content, persists in endeavoring to force us into a position which we uniformly and emphatically have repudiated.

Aconitine, veratrine, morphine, quinine, atropine, strychnine, hyoscine, each has its own particular sphere of action, which is defined by clinical and physiologic experiments. These fields to only a relative degree harmonize with those covered by the original plants from which these alkaloids are extracted. There may in fact be very little relation between the two. The alkaloids are not offered as substitutes for the former, but each stands upon its own footing.

Our preference for the alkaloids is because, they being uniform agents and thus always acting in exactly the same manner when given in similar dosage under similar conditions, we have a positive certainty as to our expectation of results, an assurance we do not have when using the crude drugs, since the latter differ widely as to the quality and the quantity of the effects a given dose will afford. For these reasons we base our practice on the alkaloids, only resorting to the crude drugs in cases where the alkaloids are not suitable.

Frankly, we do not see how any practician could be so silly as to administer hyoscyamus when he desired the sedative effect of hyoscine. We do not see how he could face any emergency where instant and powerful intervention alone will save the patient, and rely upon a remedy of whose effect and whose strength he can only judge by trying it on the patient. These things to us seem axiomatic. We do not wonder that Burggraeve and his followers became impatient, when so very many in the profession failed to realize these truths as they, who had studied them, did.

Do not be alarmed about the future of great truths. They are like the sun; you cannot hinder their progress.—Andral.

SOME FACTS ABOUT ANAPHYLAXIS

In 1902 Richet directed attention to a phenomenon termed by him anaphylaxis, the contrary of prophylaxis. (It had before this been known as "hypersensibility.") A dog receives an intravenous injection of congestine (a poison isolated from the tentacles of the sea-anemone) of 0.05 Gram per kilogram weight. The animal presents symptoms of intoxication lasting two or three days, such as diarrhea with tenesmus, hypothermia, enfeeblement and emaciation. In ten to twelve days the animal recovers and in a month cannot be distinguished from a normal dog.

If a month after the first injection another one is made, equivalent to one-twentieth of the first dose, immediately the dog is seized with repeated vomiting, many times bloody, and profuse bloody diarrhea. He has pruritus, violent dyspnea, the arterial pressure falls, complete motor paralysis appears, with anesthesia, and the dog often succumbs—always if the dose of congestine is 0.01 Gram per kilogram of weight. But this dose induces no symptom, scarcely, with a new animal. The first injection has rendered the animal more sensitive; and this state is termed anaphylaxis.

Richet obtained similar results with a poison extracted from mussels—mytilocongestine.

In 1903 Arthur showed that nontoxic albumins, and even blood-serum, could induce anaphylaxis. Milk, ovalbumin, papain, extracts from green peas or lentils, and peptone, have generated it. This was the case also with bacterial toxins, in fact any albumose or any substance approaching it in constitution seems capable of inducing anaphylaxis, varying in intensity with the inducing substance and its injection into either the veins, peritoneum or brain.

Rosenau and Anderson sensitized conies by the intestines; fed on horse-flesh or treated by horse-serum introduced into the stomach by the tube, they became hypersensitive to the serum of the horse. Disease from serum, the tuberculin reaction, and the illness that follows puncture of a hydatid cyst when the liquid reaches the peritoneum, are examples of anaphylaxis.

It is not so generally known that the hypersensibility following the ingestion of certain albumins is also due to anaphylaxis through the digestive tract.

Lesné records the case of a girl aged eight years. She took an egg daily until the age of seven without difficulty, but occasionally had urticaria and unilateral edema of the eyelids or face. For a year she was seized, each morning at the beginning of meals, with intense abdominal pains, growing pale, quitting the table, rolling on the ground, with free diarrhea; then the pains ceased and she finished her meal. The attack reappeared at the same time next day. The daily egg was blamed, as the attacks began when a little of it was eaten, and from the day this was stopped the attacks disappeared suddenly, digestion became normal, and the stools lost their fetor.

Four months later the child was given food containing a little egg. Immediately she was seized with intolerable abdominal pangs and uncontrollable vomiting, first feculent then bilious. The intolerance was absolute for forty-eight hours, the tongue red and dry. The facies was choleriform, emaciation great, debility extreme, temperature 97° to 97.7° F., pulse 140 and relaxed, extremities blue and cold. The urine was scanty, showing acetone and a little albumin. Following diarrhea the constipation was obstinate, the liver hypertrophied, the stomach shrunken and not tender. No other disorder was detected. Treatment was by applying hot wet dressings, injections of serum, gastric and intestinal lavage, and absolute dieting. Recovery was gradual, occupying two weeks.

This was a case of anaphylaxis from eggs, notable by the four-months' duration of hyperesthesia, the sudden explosive attack with toxic phenomena, the small dose of albumin ingested, and the lowering of arterial pressure.

The common symptoms are gastrointestinal dyspepsia, saburral tongue, bad breath, heaviness in the stomach, tympanites, constipation or diarrhea with fetid stools, and urticaria. These cease sooner or later when eggs are stopped. Sometimes milk causes similar symptoms, although previously well supported. (Hutinel). Eruptions may precede or accompany the attacks. Sometimes the trouble may be avoided by substituting buttermilk or whey. Besredka showed that in the guinea-pig milk did not induce anaphylaxis, but it vaccinated against the lactic form.

To this cause are also attributed the attacks sometimes following the eating of strawberries, mussels or oysters. It is necessary to exclude attacks due to spoiled foods of this sort, as well as typhoid and paratyphoid infections. Poisoning by non-

poisonous mushrooms may be attributed to this cause also. Predisposition is essential.

Clinically anaphylaxis by ingestion manifests itself under the following aspects: (1) Phenomena of light intoxication: digestive troubles, urticaria, strophulus, local edemas resembling Quincke's disease, which, also, Dreyfus attributes to anaphylaxis. (2) Phenomena of *foudroyant* intoxication: abdominal pains, vomiting, with constipation or diarrhea, the choleriform syndrome, with fever or more frequently hypothermia, fall of arterial pressure and collapse, often mortal. This last approaches the cyclic vomiting of infancy, which may also be due to anaphylaxis.

It is as impossible for a human being to be happy who is habitually idle as it is for a fine chronometer to be normal when not running.—O. S. Marden.

THE ABORTION-QUESTION

Not a year has gone by that we have not printed in these columns one or more articles upon this profound human problem, but their appearance every time has been the signal for a lively discussion, showing the intense interest which physicians and the public at large feel in it. It is because of this and the fundamental importance of this question that we give room this month to two more articles by able and conscientious men, each certain that his own position is morally sound, yet each disagreeing with the other in almost every particular.

One of our correspondents advocates enlarging the legal power of the physician, so that he might bring pregnancy to a close, not only in cases where it threatens the life of the prospective mother, but also in cases where impregnation occurred during rape, or, perhaps, would destroy some Gretchen's good name, or when the child is likely to be a defective, or maybe to prevent the physical or financial overburdening of an unwilling mother.

The other writer denies the right of the physician to take the life of the fetus under any circumstances, holding that from the moment of conception the unborn child has the same right to life as any breathing human being, and that to destroy it, even to save the mother's life, is murder.

Neither of these extreme positions will be endorsed by the majority of physicians. Here, as in most things, the truth lies in the middle. In commenting upon Dr. Flynn's article (see page 409) we have already stated our objections to his view. Yet we respect his views, because they reflect a noble soul and are based upon high moral grounds and firm religious faith. However, in its rigorous fidelity to his own understanding of a divine precept his teaching is more pitiless even than was the puritanism of the early fathers, and absolutely blind to the demands of social welfare. As Dr. Johnson well says in his paper, this view would make it wrong to interfere even in cases of ectopic pregnancy where the child could not possibly survive.

Dr. Johnson's argument addresses itself mainly to two things: (1) Our interest in and sympathy for the woman, as a citizen and a human being in trouble; (2) The contention that to protect itself against the propagation of defectives society has the right to destroy the fetus—practically every fetus, that is to say, which is the result of illicit intercourse, since "practically all illegitimate children are defective." His argument is an exceedingly able one and doubtless will carry conviction to many.

Much as we all symphatize with every woman in trouble, and especially with the confiding yet inherently innocent girl who has risked everything and lost all for love, yet this cannot be allowed to determine what is right and what is wrong. We sympathize with the man or woman who faces the prison for his first crime, or for the criminal going to the gallows, but that does not justify the crime. We naturally sympathize with every woman going through the agonies of child-birth, nor do we wonder that she shrinks from this crisis, often much too frequently recurring; but the pain which she inevitably suffers, the social and financial distress that child-bearing entails, are not enough alone to warrant our interference with the most natural and the most necessary of nature's laws.

The biologic if not the social purpose of marriage is reproduction, and sexual congress is but nature's expression of that law. Practically every young woman, when she marries, understands this; she realizes that children are a possibility, indeed a probability of the married state. If she is physically unfitted to bear children, then surely she is unfitted to take on the role of a wife. It is in recognition of this fact that bills have been introduced in several legislatures, requiring physical examination prior to marriage, both of men and women.

Bearing children is becoming more and more a burden to women, but more on account of changing social conditions—which need not be discussed here—than because of actual physical incapacity; and the more they dread the ordeal, the more pleadingly do they beg the physician for relief. And yet the child, when it comes, is not unwelcome, neither does its advent bring ill-health as frequently as we are led to believe. As a matter of fact, the invalidism accompanying the married state is far oftener the result of infection on the part of the husband, who sows his wild-oats early and delays till later and later the taking of a wife.

Children, instead of being a burden, may really become a means of assistance and support. Indeed, about all the old-age insurance our foreign-born citizens have or seem to require is a growing family, where the maturing sons and daughters lend comfort to the days of struggle, help found the family fortune a little later in life, and by and by save the parents from penury in their declining years.

The illegitimate child falls under a somewhat different head, owing to the alleged fear that it may become a defective and a burden to the State. There are many divergent opinions upon this point. It certainly is not agreed, as Dr. Johnson claims, that "practically all illegitimate children are defective." Carlsen (of Denmark) found that the percentage of defectives among the illegitimates in his country was below instead of above the average. Spitzka and others have asserted the contrary, submitting interesting statistics in support of their claim, but such data are exceedingly hard to get in sufficient completeness to determine finality. The foundling asylums, which are filled largely from the defective class, irrespective of the legitimacy of these unfortunate inmates, are drawn upon mainly for such data.

Yet even if it could be shown that a much larger percentage of the illegitimate children were defective than those born within wedlock, this would not justify the wholesale slaughter of the innocents. The percentage of degenerates is much greater, among the Russian Jews flocking to our great cities (perhaps as large as among illegitimates) than among the Teutons who make up so large a proportion of our population. Yet I can not believe that anyone will claim that we should kill off all the Jews before they are born—though this suggestion might actually be considered seriously in some quarters!

While the roll of infamous bastards is a long one, the number of those "natural" children who themselves, or through their seed, have been of service to the world is more than equally large. Among them are monarchs like William the Conqueror, popes like Clement VII; great soldiers like Don John of Austria, Marshal Saxe and General Burgoyne; great writers like George Sand (a descendant of Marshal Saxe, through illegitimate channels), Lord Byron, and both the Dumas, father and son; artists like Leonardo da Vinci; theologians like Erasmus; philanthropists like James Smithson, the founder of the Smithsonian Institution; statesmen like Alexander Hamilton and our own Lincoln, which latter ascribed the best that was in him to his mother, who was illegitimate.

While it is alleged that genius finds its explanation in degeneracy, still the world owes too great a debt to its great minds to resort to a wholesale holocaust of all the fetuses whose parents present mental or moral irregularities or physical stigmata. Carrying the policy of extermination to its natural conclusion, we should emulate the policy of the Spartans and rid ourselves of all weaklings as early as possible. How-

ever, instead of supplying men and women of genius who present evidences of degeneracy with free supplies of abortifacients, it might not be a bad idea to sterilize them. The effect of such an operation—so simple in the case of men—upon the intellectual productive power would be worth watching, indeed!

Dr. Johnson's definition of rape is an interesting one. He extends it to cover cases of betrayal and seduction. Supposing this idea were accepted, then every pregnancy occurring outside the marriage relation would become a "rape," and the young woman in every case would be divested of moral responsibility. Yet we all know that in the majority of instances the weakness is as much the man's as the woman's, and the invitation to illicit relations comes almost as frequently from the latter as from the former. Furthermore, accepting this definition, all legal restraint would be removed from the performance of feticidal operations, and they would naturally multiply, as would the necessity for them when restrictions were removed. When a woman is impregnated during *actual* rape we agree that there is sufficient cause for therapeutic abortion—and this should be legalized.

The appeal to our sympathies for poor, stricken Gretchen will find a response in the heart of every kind-hearted man and woman. Hers is the tragedy of the ages—her story has been told again and again in art, in music, in literature. No characters in the world of fiction move us more than does Marguerite in "Faust," Effie Dean in "The Heart of Midlothian," and Hester Prynne in "The Scarlet Letter." But will making immorality easy and safe take the blight of disgrace out of these troubled lives, or what is more important, *will it save other girls from going wrong?* I think not.

The problem is not an easy one. I have no solution for it, and I admit its complexity. But I protest that it is no solution for one evil to bury it under another one equally great. Life is a sacred thing, a mystery. Let us preserve it, protect it—that is the true mission of the physician. Our profession is engaged in a constant struggle to preserve the weak—the "unfit," if you please. Shall we change our mission and commence to destroy—at the very portal of life? Most assuredly, No!

Failures are only endeavors temporarily off the track and are often but pillars of success. Many of our failures swing us to greater heights of success than we ever hoped for in our wildest dreams. Life is a successive unfolding of success from failure.—George F. Butler.

OUR BELIEF IN DRUGS

We believe in the efficacy of treatment by the use of drugs. Others do not. There's reason for both. We employ pure drugs, single ones, which do not vary. Every dose of any one of them is exactly as strong and exerts exactly the same powers as every other dose of that same remedy. We know precisely what each dose can and will do when we administer it. We do not have to "try a few doses" to see what the effect is going to be. We do not lose precious time thus but get in our work, sure and exactly right, at the earliest moment, before the disease has effected a firm lodgment in the body, or caused alterations in the tissues that can only be removed, if at all, by the slow processes of nutritional repair. We stand ready to extinguish the fire at its start with a bucket of water, instead of waiting till the whole building is ablaze. So surely as that all nature is correlated by the laws that govern her, we are in harmony with her in this matter.

We study disease at the bedside, in the living patient, and we study the action of remedies upon him. One observation is noted, it is repeated in each similar case until we recognize it as a law, subject to the exceptions incident to varying concomitants. That is why we believe in drugs.

Our friend does not believe in drugs—but, then, he does not use them. Perhaps he thinks he does; but his prescriptions go to some pharmacist whose stock is old and decayed or has been supplied to him in poor quality; or the doctor has too little knowledge of drugs to trust himself to the single one that is needed, and orders a group—which doesn't happen to give the desired effect.

He does not see any difference between veratrum and veratrine, consequently doesn't believe in the difference.

Not being sure of his drugs he dare not use them boldly, and loses out. He waits to complete his diagnosis, and has the poor satisfaction of learning from it what he might have done last week. There is just as much reason for his pessimism concerning drugs as there is for our belief in them. If the study of drug-action for a lifetime has taught us nothing, assuming for ourselves the average mental capacity of mankind, then is all study useless, all effort unavailing, and the only true philosophy that of the ape—an ape eons ago, an ape still.

Let the howlers howl,
And the growlers growl,
And the prowlers prowl,
And the gee-gaws go it;
Behind the night,
There is plenty of light,
And things are all right,
And I know it.

THE CONFERENCE ON MEDICAL EDUCATION

The sixth annual conference of the Council on Medical Education of the American Medical Association was held in Chicago the last day of February and the first two days of March, jointly with the fifth annual conference of the Committee on Medical Legislation of the same body. Its meetings were quite liberally reported in the newspapers, and the general conclusions have already become public property through this source, but to one in attendance there were brought out many interesting and illuminating things, which seem to be worthy of special attention.

In addition to the medical delegates there were present prominent educators, representatives of the scientific branches of the Government Services, and well-known jurists, most of whom took part in the program. The reports and addresses were uniformly excellent and their ethical tone and professional spirit were high; they could hardly fail to inspire those in attendance to nobler ideals.

We cannot comment here upon a tithe of the work of the Conference. We can only "hit the high spots," some of which will be referred to briefly in this editorial and those that follow.

Only a few years ago medical education in this country was on probably a lower plane than in any other claiming to be "civilized." While there are many medical schools which today are anything but cause for pride, the advancement of the last quarter century has been remarkable. Probably the poorest of the medical colleges of 1910 will compare favorably with the best of those of the early '70s; and the best American schools now stand on an equal footing with the best medical institutions abroad.

But while there is much to be proud of in our progress in medical education, the sentiment of the Conference was that there still remains much to be done. The standards of quite a number of our schools seem to be rated as sufficiently high, but there are many others which fall far short.

The line of cleavage between the "acceptable" and the "not acceptable" institutions seems to be determined mainly by two considerations: (1) The standard of preliminary education required, and (2) the adequacy of the material or physical equipment for proper instruction. It seems regrettable that the latter consideration, bearing as it does the sign of the dollar, should have so much weight. This will be referred to later.

Nearly all of the speakers brought out the point that those undertaking to prepare men and women for the practice of medicine have a great moral obligation to fulfil to the people. An ignorant and unskilful physician is a menace to the health of the community and becomes a public danger; those who for private gain or personal advancement are responsible for making such men doctors are, according to one speaker, "little less than criminal." It is morally *wrong* for a community to go into the medical-college "business" to provide professorships for its leading physicians, or for a college or university to establish a medical department simply to "round out" its

course of instruction—just as wrong as it is to run a medical school simply as a money-making mill. President Pritchett, of the Carnegie Foundation, praised highly the physicians of Seattle, who went on record as opposing the establishment of a local medical school unless the University of Washington should decide to locate in that city an adequately equipped medical department; and President Schurman, of Cornell, made the significant statement that "the desire for institutional renown is quite as unhallowed an aspiration as that for personal gain."

Within the last decade there has arisen, as Prof. Victor C. Vaughan pointed out, a movement the like of which was never seen before in the world, having for its purpose the physical betterment of the race. Ten years ago no man thought of endowing medical instruction or medical research, today millions are becoming available for the study of the human body.

Men are just beginning to realize that disease is the greatest handicap to efficiency or success, that it is the result of ignorance, and that it can be prevented or cured as men grow in wisdom. It follows as a natural sequence that "the nation which fails to develop scientific medicine," again quoting Professor Vaughan, "cannot become prominent in the civilization of the future", and that "the development of scientific medicine means the physical, intellectual and moral betterment of the race."

Conferences such as this one are certainly doing a great deal of good. Their findings are not "the last word," and they have a tendency to magnify the scholastic as compared with the practical side of our calling; but they throw the searchlight upon our weak points and through healthy discussion lead to their removal.

But one thing I object to: the tendency to minimize the work of the smaller schools, many of which are doing magnificent work. Laboratory equipment is not everything; it is not even one of the most important things. Institutions which keep close to the young men and women who are fighting their way to the front are of vital importance to the welfare of the nation. We believe in the boy of farm and factory and *in his schools.*

You get your pay for doing right the minute the act is done—in the very act of doing it. In the same way punishment comes with the doing of a mean, cowardly, unworthy act.—Golden Rule Jones.

MEDICAL SCHOOLS AT HOME AND ABROAD

At the recent Conference on Medical Education a number of charts were hung on the walls, which graphically illustrated important facts concerning our medical schools and our system of licensure. The writer was particularly interested in one chart showing the number of medical colleges in the United States as compared with those in foreign countries. There are in this country 160 medical schools, including the sectarian ones. In all the rest of the world there are 172 medical schools. In other words, in the United States we have nearly as many institutions for the making of doctors as are supported by all other nations put together.

Of our 160 schools 138 are nonsectarian. Of these 68 were designated as "acceptable" by President Bevan in his report. Of the remainder 37 need certain improvements to make them acceptable, while 33 are branded as "not acceptable."

Compare with this the situation in other countries: In Germany there are 20 medical schools; in France, 5; in England, 21; in Scotland, 8; in Ireland, 4; in Austria, 7; Italy, 20; Russia, 10; Spain, 9; New Zealand, 1; Australia, 3 in Spanish America we find that Mexico has only 1 medical school; Argentine, 2; Brazil, 3; while most of the other South-American republics have only one each. Canada has 8.

The quality of instruction and the requirements for admission in most of the foreign schools are high, so that the young man, after he completes his course, has an excellent general education as well as a thorough medical training.

There undoubtedly is a movement on foot to crowd out many of the medical

colleges in this country. President Bevan, in his report, said that the number of schools should be reduced to 60 or 70. This movement is supported by the increased cost of medical education, which was referred to by nearly every speaker. President Schurman said: "The costliness of medical education seems to sound the death-knell of the proprietary or private medical school," and Professor Vaughan declared that "the most expensive training in the world is in medicine, and the medical school of the future must either have private endowment or state aid."

Schurman again made the statement that while the college of art are costly and schools of engineering and agriculture even more so, "the medical college is the costliest of all." According to President Pritchett of the Carnegie Foundation, it costs $10,000 a year to conduct any single department of instruction during the first two years of the medical course. An income of $50,000 to $60,000 is needed for the first half of the course and fully $100,000 to maintain the school. This is placed as a minimum and it was remarked that the tendency is constantly toward an increase. Vaughan placed the figures even higher than these, asserting that to maintain a medical school adequately it should have an endowment for an entering class of 50 to 100 of at least half a million dollars, and this without hospital facilities. A well-equipped school really should have four times this endowment and a yearly income of at least $200,000—and this makes no provision for hospital service! According to the speaker last quoted, none of the first-class medical schools take in more than one-third of what it costs for their maintenance.

It was generally agreed that to give first-class instruction it was essential that every school should have a paid faculty, so that the teachers might devote their entire time to its service. Not only should the teachers in the socalled laboratory branches have salaries, but also the teachers of the clinical branches, inasmuch as a man cannot do efficient work unless he enters into his educational duties heart and soul, without other disturbing interests of a bread-and-butter nature.

In this connection President Schurman presented a dilemma: In the last two years of the course it is essential that the teacher should have experience in the treatment of disease, and to have this experience he must practice; and, yet, if he practises his profession his interests are necessarily centered upon the work which gives him a livelihood instead of upon his teaching. As he put it: "No man can teach the practical branches in the last two years *unless* he is engaged in practice; and just *in proportion as he is engaged* in practice and absorbed in it is he unsuited for teaching."

While it is unavoidably essential that medical education should cost more, it seems a pity, as we have already said, that it should bear the stamp of the dollar. We are inclined to think that possibly too much emphasis has been placed upon this feature of our medical education. While it is important that the student should be an educated man, that he should have thorough grounding in the sciences as well as in the cultural studies before entering upon his medical course, is it not possible that too much emphasis is laid upon the laboratory work and too little upon the clinical? Of course the young man must dissect the human body and that means that he should work in the anatomical laboratory, but this is little more expensive than it ever has been. Pathological and bacteriological study require an ample equipment, but this does not run into the hundreds of thousands or millions, nor is a fortune required to provide the essentials for a chemical laboratory sufficient to give good instruction.

We suspect that the real issue is being befogged, and that those interested are bearing down too heavily upon the expense of equipping these laboratories. After all, it is the man who counts. He is the end-product of the medical college and it is his efficiency as determined by properly authorized authorities which must determine the quality of the work the school is doing rather than the sum invested by the college in microscopes and other scientific instruments.

As to the amount of education which the student should have before commencing his medical instruction, it was generally agreed that the equivalent of two years in the college of arts is sufficient; more than that time is unnecessary and may be harmful, since it increases the age at which the young man may enter upon his life to work far beyond that required in other callings and tends to make him a scholastic of waning enthusiasm and diminishing adaptability for the practical problems of our very practical profession; and as President Northrup put it: "I would give more for a fellow who is really hungry for knowledge than one who is trained in his profession from the days of Methuselah down." And with that we most heartily agree.

There is an idea abroad among moral people that they should make their neighbors good. One person I have to make good: myself. But my duty to my neighbor is much more nearly expressed by saying that I have to make him happy—if I may.—Robert Louis Stevenson.

THE OVERCROWDING OF THE PROFESSION

In the United States, with an estimated population of something more than 88,000,000 people, according to the statistics supplied at the Conference, there are 134,402 physicians, or an average of one physician to 655 people. South Carolina has the smallest number of physicians in proportion to its population, viz., 1 to 1324 people. North Carolina has 1 to 1216; Minnesota, 1 to 981; North Dakota, 1 to 971; Wisconsin, 1 to 936; Alabama, 1 to 924; Virginia, 1 to 917; Utah, 1 to 908; Delaware, 1 to 906; Louisiana, 1 to 900.

The most-congested communities so far as physicians are concerned are: Nevada, with 1 to 239; the District of Columbia, 1 to 262; Colorado, 1 to 386; California, 1 to 401; Vermont, 1 to 533; Wyoming, 1 to 541. Illinois has 1 doctor to 587 people; Indiana, 1 to 557; while New York has 1 to 617; Ohio, 1 to 585.

We are surprised to learn that the western states like Washington, Idaho and Oregon, in which the state-board examinations for candidates desiring to practise have always been considered peculiarly severe, were about the average for the entire country, running 1 to 616, 1 to 664 and 1 to 646, respectively.

There can be no question that there are far too many physicians in this country, and instead of the proportion diminishing, according to figures given by President Pritchett it is actually increasing. In both the North and South the increase in the number of physicians more than keeps pace with the loss caused by death and the added requirements made necessary by increase of population. Our medical schools are, today, graduating three times as many physicians as the country requires, according to President Pritchett, who places the actual need at about one doctor to 1500 people.

These figures certainly deserve careful consideration. In their study we should not forget that as a result of the activity of our profession in mastering sanitary and hygienic problems and in diffusing the knowledge thus obtained among the people, crystallizing some of it in the form of law, we have reduced the volume of disease, so that fewer physicians are needed to care for the sick than were required a decade or more ago. Then the osteopaths, the Emmanuelists, the Christian scientists, and thousands of hospitals, dispensaries, sanatoria, and public and private charities, are still further relieving us of the "burden."

Yes, we have too many physicians, but it is not yet clear how the difficulty is to be solved without working injustice upon some, and probably upon many. For the solution of this problem the raising of standards of medical education has thus far failed. After all, "the best man wins," and the "fittest" survive in the struggle for professional livelihood. The better medical schools will eventually get the students according to the same test. The perfection with which they adapt themselves to the needs of the country will determine their popularity.

And that reminds me that I heard much more about the laboratory branches than I did about the practical portion of the medi-

cal course. Isn't the curriculum losing its proper proportion? This point should be considered in computing the cost of *essentials* in medical education.

God be praised, whate'er comes after, I have lived and toiled with men.—Rudyard Kipling.

A FALSE STANDARD FOR EXAMINING BOARDS—ITS PRACTICAL RESULTS

The Illinois State Board of Health and its enemies have again locked horns. This time it is over a resolution passed by the Southern Illinois Medical Society, casting a whole lot of mud on the State Board of Health for alleged slackness in the way of passing candidates for registration as physicians. It is said that this resolution was passed, without any special attention being given to it, through the influence of Dr. Carl E. Black, Chairman of the Judicial Council of the Illinois State Medical Society. It referred to Illinois as "one of the rotten spots in the United States in medical education," and requested the Secretary of the State Board to explain "why Illinois should bear the stigma of being one of the plague spots of the country in medical education, medical examination and medical licensure."

This provoked a reply from Dr. Egan, and that a rejoinder from Dr. Black. It is evident from the latter's reply that the onus of the matter consists in the statement that Illinois passed a greater percentage of candidates than other states, and that this is the only criterion by which it is proposed to judge of the relative merit of any State Board of Medical Examiners. In other words, the greater the percentage of candidates rejected, the higher the standing of the State Board. There is no qualification whatsoever as to justice to the candidate, or the superiority in grade of candidates offered. If you wish to rank at the top of medical examiners, reject *all* the candidates that offer, and the nearer you come to this ideal, the higher will be your standing.

This matter is not new. Dr. Black made charges against the State Board before; they were taken before the Governor, who asked for specific instances of dereliction, with the result that not a scintilla of evidence was offered. The Governor expressed himself with his customary directness about people who were ready to make charges without facts to sustain them.

Chicago colleges give a better medical course than many others, and pay more attention to such instruction as fits candidates to pass such examinations, and it is natural that the Illinois candidates should stand high. In California, whose State Board is believed to be very difficult, it is said that the result of excluding most of the regularly educated physicians applying has been to let in a horde of quacks, who do not seem to find any obstacle. The statement has been made that there are more of these practising in that state than of the registered physicians.

THE JUGULATION OF DISEASE

The possibility of acute infectious diseases being aborted or of presenting themselves in abortive form was universally admitted up to a comparatively recent period. It was not until the revolutionary methods of Burggraeve commenced to make themselves felt in current medical thought that the absolute necessity of such affections pursuing in every instance a typical course was advanced. But when the pugnacious Belgian injected the word "jugulation" into medical terminology, an opposition was at once aroused, and this has developed into something very like a fetish.

The textbooks formerly described abortive forms of the essential fevers, but as soon as the possibility of these was called in question with characteristic timidity they began to run for shelter, and the later editions have very little, if anything, to say along this line.

Examining into the matter, however, we find that all the proof is in favor of the abortion, or jugulation, of such attacks. Bacteriology, if it teaches anything along this line, shows that the powers of the human body are able to cope with a limited number of invading microorganisms, and that it is only when the number of the invaders or

their virulence exceeds the natural defensive capacity of the body to cope with them that the disease is established. Clinical observation teaches the same thing, and those who put the treatment recommended by those who believe in the jugulation of infectious maladies to a fair clinical test are reduced to the necessity of acknowledging the truth of this doctrine, or else of confessing their inability to diagnose these maladies in their early stages.

The closet-clinician makes a very simple matter of the question; to him a case of pneumonia or of typhoid fever is only such provided it passes through all the classical stages of the malady in question, in the classical period. If it is cut short, or stops spontaneously before each of these stages is completed, then it was not a pneumonia or a typhoid fever. Just what it was seems a matter of uncertainty. This method of diagnosis simply begs the question. It is not a method founded on the study of nature but upon closet-devised rules and distinctions.

FOR THE BOYS LEAVING COLLEGE

Next month, in addition to the usual supply of good stuff for the regular reader, we shall print a large amount of material which will be of special interest to the young men who will soon be graduated from our medical schools.

Out of the richness of their own experiences we want to ask as many of the "family" as can and will to chip in with a word of advice and helpfulness for the boys whose troubles are about to begin. Think of the day when you went out into this world of trouble and with a green sheepskin (greener yourself), and give the boys a lift.

That we may get down to "brass tacks," suppose you contribute a short paper (200 to 300 words is enough) on one of the following subjects:

"Where Shall the Young Doctor Locate?"

"How Shall He Equip his First Office, allowing an Expenditure of $100 to $200?"

"What Should Be the Relation of the Young Doctor to the Old?"

"Shall He Dispense or Prescribe?"

"What are the Twenty Remedies that He Will Find the Most Useful?"

"What are the First Emergencies He Will be Called upon to Meet, and How Shall He Meet Them?"

The time is short, so I urge everyone to sit down and write the little article today. Other titles beside those mentioned above may suggest themselves—but make the article a practical one.

A STRAY MILLIONAIRE

Dr. Frank Billings has been sorely blamed in some quarters for having established a practical monopoly of the treatment of millionaires in his own behalf. There are a few other members of the medical profession, like ourselves, who would not mind dipping our hands into the millionaire's purse occasionally, and we feel that the illustrious Treasurer of the American Medical Association ought, if ethics forbids his sharing his fees with us, do better yet, and share his patients.

But we learn from *The Record-Herald*, Chicago, that one at least of the millionaire persuasion escaped him. Dr. Chasing Hatred Chase Jordan, M. M., M. D., L. G., of obscure origin, but reared by a negro family, testified in court that he had received something like $20,000 from the family of the late Kansas City millionaire, Thomas H. Swope, for remedies he had compounded from herbs. These herbs the alleged Dr. Jordan said he gathered, or had gathered for him from the fields. He ascertained their harmlessness by chewing the herbs himself, when if no bad results followed he gave them to the patients. As to the particular remedial virtues the herbs might have possessed, he seemed to have been entirely innocent of a ghost of a suspicion of knowledge. He explained that the letters following his name meant: M. M., either "Medicine Manufacturer" or "Medicine Minister," M. D., "Medicine Doctor," while L. G. meant "Liver and Gall." Certainly the quantity of the latter ingredient possessed by the alleged doctor entitled

him to not one but sixteen big G's following his name.

While this ignorant pretender was securing such princely sums from the millionaire's family, there was well within reach of the latter's residence many a really educated and scientific physician who was finding the greatest difficulty in raising money to pay his monthly rent.

Haec fabula docet—well, what does it teach?

THE INTERCOMMUNICABILITY OF HUMAN AND BOVINE TUBERCULOSIS

Prof. A. Eber of Leipzig, in the *Muenchener Medizinische Wochenschrift* for January 18, 1910, describes a series of experiments and investigations which seem to prove that it is possible to transform the tubercle bacillus derived from tuberculous material from human sources into a form highly virulent for cattle and rabbits, and which in other ways behaves like tubercle bacilli of the bovine type. He accomplished this result by the repeated passage of human tubercle bacilli through the bovine organism. He insists upon the close relationship existing between the two types of the microorganism.

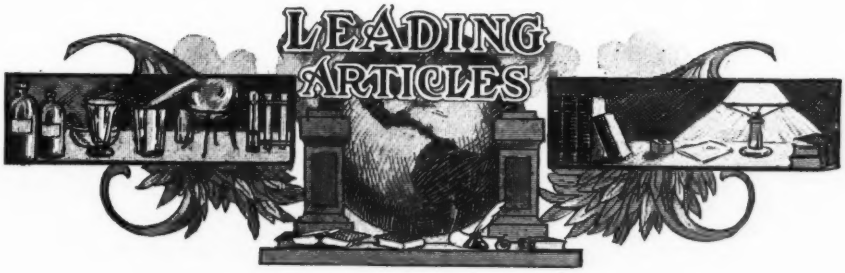
Although it is hardly the place here to enter into detailed bacteriological discussion, it may be well to mention the matter briefly, because these, like other experiments of a similar nature, are directed against the well-known opinion expressed by Koch at the London Tuberculosis Congress, in 1901, that bovine tuberculosis is not very dangerous to man. The controversy which arose after the London Congress was somewhat lacking in a proper basis, inasmuch as Koch had not asserted that bovine tuberculosis was entirely different from the human disease and that it could not be transmitted to man from cattle. He had only said that among the various sources of tuberculous infection for man, bovine tuberculosis does not occupy an important place, and this statement he fully vindicated by facts.

There is no doubt, as Theobald Smith had shown as early as 1898, that the bovine tubercle bacillus differs from the human variety in several important points; and there has never been adduced any well-authenticated instance of phthisis in man which could be traced to a bovine source. Nevertheless, it would be foolish and ill-advised to neglect, for this reason, all hygienic precautions in dairies and in the management of cattle.

It may be true, as has been asserted by Von Behring, that infants fed on cows' milk which contains tubercle bacilli are in danger of infection. It may even be true that these bovine tubercle bacilli may find the conditions in the infantile organism favorable for their growth and multiplication, after a longer or shorter period of latency. It may also be true, as asserted by Nathan Raw of Liverpool, that the socalled localized lesions of tuberculosis are due to a bovine infection, while pulmonary tuberculosis is always produced by the human variety of germ. I say these things may be true, but nevertheless I do not believe it, because their actuality has never been proven.

Even the special conference held on the question during the Washington Tuberculosis Congress, in 1908, did not lead to any agreement in the matter, and the absurd proposition to determine it by a resolution to be offered to the Congress for action was only with difficulty prevented by Professor Koch from being put to a vote. As though such questions could be settled by the vote of a congress!

In view of the fact that the whole subject of the relation of human and bovine tuberculosis is still *sub judice*, it behooves us to continue the exercise of proper care. On the other hand, so much evidence has been brought forward to show that the bovine tubercle germ is at least rarely an infective agent in man, that we need not cherish any foolish fear of acquiring virulent infection from a stray sample of contaminated milk or meat. In the matter of infants' feeding the question is of greater importance, and in order to be entirely safe, it is necessary to see that the milk with which our little patients are fed does not come from tuberculous cows. That no safeguard may be lacking, the inspection of cattle is proper and to be encouraged.



Hard Teeth and Soft Teeth

A Study of the Systemic Causes of Dental Disease

By EUGENE S. TALBOT, M. D., D. D. S., LL. D., Chicago, Illinois

DR. G. V. BLACK, some years ago, published an article on "An Investigation of the Physical Characters of the Human Teeth in Relation to Their Diseases, and to Practical Dental Operations, Together with the Physical Characters of Filling Materials." (*The Dental Cosmos*, May, 1895.) His researches in this report were extensive, painstaking and exhaustive. The conclusions arrived at are:

"The teeth are strongest in youth and early adult age, diminishing somewhat in strength with advancing age.

"Teeth that have lost their pulps and have become discolored lose strength in a marked degree, apparently from deterioration of the organic matrix.

"Teeth that have become badly worn from mastication and in which the pulps become so much calcified as to cut off nutrition of the crown portions of the dentin lose strength, apparently from deterioration of the organic matrix.

"Teeth of old people, and especially those in which much calcification of the pulps occurs, deteriorate in strength.

"There is no basis for the supposition that the teeth of children under the age of 12 years are too soft to receive metallic fillings.

"Differences in density or in percentage of lime salts in the teeth are not the controlling factors in the strength of the teeth nor their hardness, this seeming to depend upon the condition of the organic matrix.

"Differences in strength of the teeth have no influence as to their liability to caries. Differences in the density or in the percentage of lime salts have no influence as to their liability to caries.

"The active cause of caries is a thing apart from the teeth themselves, acting upon them from without; and, from a consideration of the facts thus far developed, the logical inference is that the cause of the difference in the liability of individuals to caries of the teeth is something in the constitution, operating through the oral fluids and acting upon the active cause of caries, hindering or intensifying its effects.

"Caries of teeth is not dependent upon any condition of the teeth, but upon conditions of their environment.

"Imperfections of the teeth, such as pits, fissures, rough or uneven surfaces and bad forms of interproximate contact, are all causes of caries only in the sense of giving opportunity for the action of the causes that induce caries.

"The objects that are to be attained in filling teeth are the perfect exclusion of the causes of caries from the tissues by sealing the cavity, and securing such form as will prevent lodgments of debris about the mar-

gins of the fillings and thus prevent the further action of the cause of caries.

"There is no basis for the supposition that some teeth are too soft or too poorly calcified to bear filling with gold or other metal in use for that purpose, since all are found to be abundantly strong.

"There is no basis for the selection and adaptation of filling material to soft teeth, hard teeth, frail teeth (in structure), or poorly calcified teeth. What basis there may be in the condition surrounding the teeth for the selection and adaptation of filling materials must be left to future developments to discover.

"With our present knowledge the only basis for the selection and adaptation of filing materials to classes of cases is the individual operator's judgment as to which he can so manipulate as to make the most perfect filling, considering the circumstances, his own skill, and the durability of materials.

"There is no basis for the supposition that calcic inflammation of the peridental membrane or phagedenic pericementitis (so-called pyorrhea) attacks persons who have dense teeth in preference to those whose teeth are less dense.

"There is no basis for the treatment of pregnant women with the view of furnishing lime salts to prevent the softening of their teeth or with the view of producing better calcified teeth in their offspring."

Dr. Kirk in his able article, "The Structural Characteristics of the Calcified Dental Tissues as Related to the Questions of Socalled 'Hard' and 'Soft' Teeth" (*The Dental Cosmos*, May, 1903), says: "I am fully convinced that the principal deductions made by Dr. Black from his extensive experimental study of the physical characteristics of the teeth are sound and trustworthy."

Differences in Teeth Structure

Viewing the summary from a strictly dental standpoint, there is no doubt but that both Doctors Black and Kirk are partly correct. That there is a difference in tooth structure all will admit.

I cite, as an illustration, the case of a strong, healthy young man of Irish parentage, 21 years of age, who has been under my care for some years. He is of more than ordinary intelligence, perfectly healthy and of an athletic build. His jaws measure 2 1-2 inches from the buccal surfaces of the first molars. He had thirty-two good, sound, hard teeth without a cavity. He contracted lues. In two years his teeth softened with rapid decay, erosion, abrasion, discoloration, and interstitial gingivitis. At the end of six years the disease has been arrested as well as the interstitial gingivitis, but the teeth still remain soft and the usual history of decay is progressing.

This is a typical but not uncommon case of hard teeth made soft by disease. It is a well-known fact that many people fifty years of age have thirty-two good, hard, sound teeth, without decay, who never use a toothbrush or mouthwash.

We have, then, the two extremes, hard teeth and soft teeth. Let us discuss Dr. Black's conclusions from a biologic instead of a dental viewpoint to see if we cannot obtain a different solution of the problem.

To review Dr. Black's conclusions, a ray of light is found in the first four, all that is necessary for our purpose.

Dr. Black admits that the teeth diminish in strength with advancing age; that when the pulps are lost, the teeth discolor, lose strength in a marked degree, apparently from deterioration of the organic matrix; that when the pulps have become so much calcified as to cut off nutrition the crown portions of the dentine lose strength apparently from deterioration of the organic matrix; that old people, and especially those in which much calcification of the pulps occurs, deteriorate in strength.

Changes in Teeth Due to Systemic Change

I purpose to show that all these conditions are brought about by systemic changes. Before taking up this part of the subject, however, let us first discuss hard teeth.

An examination of the teeth in skulls of the most ancient races shows a vast difference in structure and shape from those of

today. Ancient skull teeth have, as a rule, short bell-crowns, plenty of space in the alveolar process between the roots, are deeply set in the jaws, have flaring short roots, with thick alveolar processes. They are strong and fine-grained (these are points considered by scientists in determining the evolution of animals); nearly always 32 teeth in number; jaws measure 2 1-4 to 2 1-2 inches in diameter, differing with the nationality and environment. The teeth are rarely decayed, and when decay is observed it is usually only a dark line in the sulci of the crowns, scarcely ever at the approximal surfaces. The teeth and jaws are better developed, due to the greater use to which the ancient races put them.

Dr. G. Elliot Smith (Cairo, Egypt) says, in *The London Lancet*, in regard to decay of the teeth of the Eygptians 5,000 years ago: "Dental caries was rare among the people of lower social status and almost unknown in children. Among several thousand children found in ancient Egyptian graves only three instances of caries in deciduous teeth were observed." I have shown many times that the people of today, owing to disuse, have caused the teeth and jaws to degenerate.

The "Law of Compensation"

A law in evolution handed down from the early Greeks fits this condition exactly. Aristotle called it the law of economy of growth, whereby an organ or structure is lost for the benefit of the organism as a whole; Lucretius showed long ago how the strongest survive and the weak are laid low, i. e. the survival of the fittest; Lamarck called it use and disuse of structures; while Darwin, harmonizing these different views, called it natural selection, and Osborn, in the study of animals, termed it the law of compensation.

Interpreting this law to fit the case in hand, then, there is a struggle in evolution between the face, jaws, nose and teeth upon the one hand and the brain upon the other, as to which will obtain the most nutriment. The brain is evolving higher than the face, jaws and teeth, while the latter do less and less work, according to environment. Minot says the face is a modification backward from the lower animals.

The brain gains in evolution at the expense of the face, nose, jaws and teeth, which naturally grow smaller and hence degenerate. Another factor to be considered is that structures like these, which are passing, are transitory and more easily affected by disease. Neurasthenia in the parent, and disease in the child, produce an unstable nervous system, resulting in excess or arrest of development of bones of the face, nose and jaws as well as affecting the structure of the teeth.

The Atavistic Tendency

Still another law in evolution, by which structures return to their original size, shape, strength and characteristics, is known in science as atavism and is called by the farmer "throw-back." By this law children reproduce the conditions of their ancestors. Thus a child does not resemble its parents in general outline or in a single structure or organ, but inherits characteristics of an ancestor. This ancestor may be four or five generations remote. Or the child resembles its ealier ancestors, the anthropoid ape with hair covering the body; the lower vertebrates, as the fish with clefts at the side of the neck, or where a cyclops is born with the pineal eye in the center of the forehead, like some lizards and horned toads. In like manner, it would be an easy proposition for a child to inherit the face, nose, jaws and teeth or any one or more of these structures from the primitive races. Patients who display a mouth with thirty-two well-developed teeth, without cavities, and who never use a toothbrush or mouthwash, are atavistic so far as face, jaws and teeth are concerned. This, then, is the source of hard teeth.

It has been shown that in the normal healthy evolution of man the jaws, teeth and alveolar processes degenerate for the benefit of the organism as a whole. The jaws now measure, on an average, 2 inches instead of 2 1-2 inches. In the anteroposterior diameter they have become orthognathous instead of prognathous, which makes it difficult for the jaws to contain 32 teeth. To compensate

for this shortness, the crowns of the teeth have become straighter, the roots do not diverge as much as formerly, the spaces between the teeth in the alveolar process have closed up, and the alveolar process has become long and thin, making it more susceptible to disease. To further compensate for this shortening, one or all of the third molars have been dropped in 47 percent of my patients. Added to this normal evolution, inherited or acquired diseases modify tooth structure, both external and internal, as observed in defective teeth and interglobular spaces. Diseased tissues cannot produce healthy dentine or enamel. All these changes cause the teeth to be more susceptible to external and internal influences.

Are There "Soft Teeth?"

If you agree with Doctors Black and Kirk and the writer, namely, that teeth diminish somewhat in strength with advancing age; that when pulps are destroyed teeth lose strength in a marked degree, and when pulps become calcified nutrition is cut off and the dentine loses strength; and that tooth degeneration occurs in evolution as already stated, then the remainder of the argument is clear.

Is there such a condition as soft teeth? We have shown that the face, nose, jaws and teeth degenerate for the benefit of the organism as a whole; that these structures are transitory; that transitory structures are more easily affected by disease than normal healthy structures; that neurasthenia in the parents and disease in the child will cause arrested development of any or all these structures. It is a well-known fact that hereditary syphilis and children's diseases cause a development of imperfect tooth structure.

If this be true, will not other constitutional diseases cause the same conditions? Under such environment, a third degeneration in tooth structure is all-important. The tooth-pulp is at its best when it begins to form dentine; as the pulp proceeds with its work, it goes to its own destruction, that is to say, it degenerates. Is it not then a splendid organ for disease, locked up in its own cell without escape? After it has performed its office (that of forming dentine) it is in fit condition (senile atrophy) to take on disease.

Some years ago, with Dr. Latham, I made an exhaustive study of the dental pulp. These investigations were presented, at different times, before the Section on Stomatology of the American Medical Association. More than 4000 teeth were cracked open and 2000 specimens of pulps removed and placed in different fluids for cutting, staining and mounting for the microscope.

I was astonished at the number of diseases to which the pulp was subjected. Calcification was only a very small part as compared with other diseases which we found. Diseases of the blood-vessels and nerves of the pulp produce retrogressive changes of inflammation; abscess; cloudy swelling; fatty degeneration; mucoid, colloid, hyaline and amyloid degeneration; pulp-stones; spherites; neoplasms; fibroma, etc. I demonstrated nerve-endings in the coats of the pulp, blood-vessels showing the vasomotor system. The sympathetic system in disease, therefore, plays a part for good or evil in nerve-endings and blood-vessels of the pulp. I also demonstrated wallerian degeneration and nerve sclerosis, showing that changes in nerve-endings and nerve-tissue involved the pulp.

If, then, as Dr. Black says, calcification of the pulp causes deterioration of the matrix, and discoloration, and the teeth lose strength in a marked degree, how much more intense must be the action on tooth structure when disease of the blood-vessels and nerve-fibers with inflammation, abscess and all the other diseases enumerated are present.

The Cause of Dental-Pulp Disease

The question arose at the time these researches were progressing, when and what was the cause of so much disease in the dental pulp? It was found that when the pulp had finished its work it became senile. We know that the period of senility differs in different individuals. Some children are born senile. Children become senile at any of the periods of stress, at the eruption of

the deciduous teeth, at the eruption of the permanent teeth, at adolescence, and as age advances at the climacteric, and at about sixty when the arteries undergo a change; hence the teeth "diminish somewhat in strength with advancing age," as Dr. Black remarks.

When the functions of the body are abnormal from disease, inherited or acquired, it stands to reason that faulty metabolism and autointoxication must intensify the poisons in the blood, particularly at the periods of stress, hence the teeth discolor and soften as well. Is it not true that when the lungs, bowels, kidneys or skin become affected the teeth and alveolar process are involved? If we could examine the poor, old pulps we should find them badly diseased also, as the result of which the fibrillæ become destroyed, the organic matrix loses its vitality, the enamel-rods split off, and the enamel and dentine soften. Grief, worry, overwork, disease and pregnancy cause changes in nerve-endings and in the blood stream, bringing about disastrous results.

If, then, as Black states, there "is something in the constitution operating through the oral fluids and acting upon the active cause of caries, hindering and intensifying its effects," why does this "something" not cause changes in the internal secretions and the blood and thus in disease lower tooth resistance and make it much easier for the oral fluids to act with greater intensity upon tooth structure? From a continued clinical experience for many years it is entirely reasonable to conclude that this seems to be the case.

Is It a "Difference in Method of Observation?"

Dr. Kirk, in his article from which we have already quoted, says: "The differences of opinion as expressed in Dr. Black's conclusions on the one hand and those of the great body of clinical observers on the other may, I think, be fairly attributed to the differences in method of observation respectively employed in dealing with the question of the physical characters of the teeth."

It is the differences in method of observation, or rather an entirely different viewpoint from which Dr. Black's conclusions are discussed in this paper. As practitioners of dentistry we are reminded every day that there is a vast difference between hard and soft teeth. While it is possible that there is not so much difference but that filling material well applied will partially prevent decay in both classes of teeth, we all know that a tooth which has lost its fibrillæ or pulp cuts differently from one that has a normal, healthy pulp. A pulpless tooth has not the resistance that a healthy tooth possesses.

No set experiments, to my knowledge, have ever been made to demonstrate the relative value of filling materials in the two classes of teeth. I believe, if the question were put to each practitioner which class of teeth would resist decay the best under a given filling material, nearly or quite all would say, the tooth which is normal.

A typical illustration of soft teeth is that of a 27-year old traveling salesman, one of my patients, who had a severe attack of jaundice one year ago. He came to have his teeth put in order. I found they had become yellow and soft; decay was progressing rapidly about fillings; in excavating the cavities there was no pain; the fibrillæ were destroyed; if the pulps could be examined they would be found diseased and receding in the pulp-chamber.

Yellowness of Teeth and Disease

It is not uncommon to find soft temporary teeth quite yellow, decaying rapidly and fibrillæ and pulps destroyed. Master J. S., 7 years of age, had measles at the age of 5. Recovery was slow; at 7 he is not strong. The permanent first molars, centrals and laterals are in place and are of a fairly good quality. The temporary cuspids, first and second temporary molars are soft, decay rapidly, pulps are reached without pain, and the teeth are quite yellow.

I have a record of a number of like little patients. They have all had eruptive fevers and some have inherited disease. How do Doctors Black and Kirk know that "these variations are, as a matter of fact, extremely limited in degree?" Is it not true that the physiologic and pathologic condition of the

tooth under disease and death of the pulp is just as great as in any other tissues of the body according to its structure? Dr. Kirk's fine illustrations do not show a relation between living and dead teeth, so we lose the contrast of the two conditions under the microscope or by polarized light. The results obtained microscopically in senile teeth as well as in pulpless teeth, are at present unsatisfactory. No comparison can, therefore, be made under such conditions with normal teeth, with the microscope, by our present methods.

The method of observation of the great body of clinical observers is not from the mechanics of tooth restoration, but from its own physical condition. It makes little difference from this view-point how much or how little variation there is in density, hardness or chemical composition. We know that the fibrillæ are destroyed under certain conditions, that the teeth cut easily, that there is an odor upon rapid cutting, showing decomposition of animal tissue, and that there is little or no sensitiveness of dentine in many cases, even when the pulp-chamber is reached.

I must offer a different interpretation of the conclusions of Black in regard to tooth structure. The temporary as well as the permanent teeth change their physical characteristics, become soft and do not resist decay as readily as those in which systemic diseases are not associated.

Autointoxication Causes Softening

Systemic changes in autointoxication produce tooth softening, which is the foundation and great cause of erosion and abrasion and influences decay. The best illustration of tooth softening, discoloration, erosion and abrasion due to autointoxication is in those pathologic conditions in which the central incisors, either upper or lower, or both, are alone involved. The poisons of the blood circulate to the very end of the blood-vessels, and here is a splendid illustration of nerve-end and artery degeneration. It is also an exposition of the very earliest symptom of autointoxication, very often earlier than interstitial gingivitis.

Analysis of the blood does not give reliable information as to the changes in chemical composition. We must, therefore, depend upon the excretions of the body and the behavior of the different organs, such as the heart, liver, kidneys, bowels, etc., for information. Uranalysis should be made. The quantity of urine passed in twenty-four hours must be estimated. If the acidity be abnormal, if indican be present, if 48 ounces of urine be not passed in twenty-four hours, those conditions must be corrected. Heart pressure and the condition of the bowels must also be considered.

The physician pays little attention to these early conditions because the patient is walking about and attending to his affairs. If the disease had progressed to such an extent that some vital organ or tissue had become involved, the physician would consider that he had good reason for professional interference.

Interstitial gingivitis, diseases of the pulp, death of the fibrillæ and of pulp, producing discoloration, tooth softening, erosion, abrasion and rapid tooth decay, are very early symptoms in autointoxication.

The study of hard teeth and soft teeth as well as of all other structures and conditions of the mouth are worthy of a broad interpretation.

I BELIEVE in work. I never forget for one moment that time is precious. I never forget that the sun does not stand still, and if a man is not careful, the sun will leave him with his work unfinished. It is easy enough to accomplish something if you set out for it in earnest.

—F. Hopkinson Smith

Personal Experience in Weight Reduction

How One Physician Treats Himself for Threatening Obesity

By W. F. RADUE, M. D., Union Hill, New Jersey

EDITORIAL NOTE.—Dr. Radue describes in detail the dietetic regimen and the system of exercising which have enabled him to keep down a tendency to excessive body weight. Some attention is given to the drug treatment of obesity, but this is developed more at length in Dr. Ernest F. Robinson's article on the same subject, which follows this one.

THE amount of adipose tissue possessed by man or woman is largely a matter of individual or family tendency and has little to do with diet, exercise or habits of life, in the majority of cases. Nevertheless, it is a fact that the habit of after-theater suppers and the free indulgence in malt liquors and sweet wines, also the habit of eating between meals and the nibbling of nuts and sweets will surely increase the weight of those that have this tendency to such a degree as to make them uncomfortable, and if not checked will eventually bring on all the train of disagreeable symptoms and complications so well known to the experienced doctor. The remedial methods used by me to combat this condition of adiposis were various, such as starving, bathing and exercise. Medicine was never prescribed by me for this purpose as I did not and do not now believe in giving drugs here. I have known several people who were treated by drugs during my time by other physicians and not one of them remains to tell the tale of how they were drugged to death.

The Tendency to Obesity

That arsenic iodide, thyroid gland, phytolacca, besides a few other drugs will reduce redundant weight is not disputed, but with prolonged use the results will be as mentioned. The weight of the average man or woman except in rare cases can be decreased about 10 percent, and in a few cases some 15 to 20 percent, by such means as dieting, exercise and baths. As a rule the fat man or woman tends to stay fat as the lean man or woman remains thin or lean. In 90 percent of the cases of obesity encountered it is an inherited trait, perfectly compatible with health, comfort and efficiency, and the fat is hard to get rid of to any marked degree.

That the danger of excessive fat, especially in the upper part of the body, will, in some persons, cause trouble with the respiratory organs and heart does not mean that this applies in every instance of stoutness in that region, the sole disadvantages being the additional weight, while the added stoutness of the abdomen makes "navigation" somewhat slow and tiresome.

Most of the evils which men and women who are growing stout attribute to their fatness are due not so much to the fat itself but to the sluggish habits which have preceded and exaggerated their corpulency. They take no exercise and consume too much food for the muscular work done, and there is too much remaining indoors with so little of brisk walking or other open-air sports.

The Methods of Reducing Weight

Now as to the various means and methods of reducing excessive fatness, I will divide them into three classes, namely, dietetic, mechanical and medicinal. The drug-method has not made a very favorable impression with me, this, as before mentioned, being due to their toxic action and permanent damage done the patient, the cure being worse than the disease. On the other hand, the dietetic and mechanical methods are decidedly beneficial when applied with reason and under the guidance of the doctor, the latter being best able to decide the amount and kind of exercise to be taken, including regulation of the diet. Do not forget: plenty

of exercise and out-door life are indispensable for the reduction of weight.

Here let me say that one must not be surprised if after three months' active exercise and dieting he finds that the patient has lost very little or no weight. In some cases six months will pass before good results begin to show, still, after about four weeks of this regimen the patients will notice that they feel better and lighter and have more endurance power than they formerly had; some even think they have lost considerable weight, but if put on the scales we find their weight unchanged.

The Value of Exercise

The various exercises proving helpful are horseback riding, bicycling, weight pulling, use of dumbbells, bag punching, walking, fencing, ball playing, dancing, turning and swimming. To these I add bathing and sweating. These are all good and may be indulged in according to the amount of time available and the ability of the patient to perform and his standing financially for acquiring the various appliances.

But, after all, the one exercise fully answering all purposes is walking, the greatest expense involved being a good pair of well-fitting walking shoes with medium, not too heavy, soles. Begin with walking a mile a day for one week, then two miles for the second week, gradually increasing the distance to five and ten miles a day. After you have become accustomed to these longer walks you will be so anxious to take your daily stroll, and the distance covered will pass so quickly that when you return you will feel like starting out for another trip. That, at least, has been my own personal experience. This walk should be taken before breakfast or three hours after. It should be a brisk walk, say five or ten miles covered by an average individual in one and one-half hours over all kinds of roads. I, myself, am taking a daily walk of six and one-half miles over a country road in one and three-quarter hours, after which I take a cold shower and a good rubbing down with a turkish towel, thereby keeping my weight within the normal limits. For those having a weak heart it is self-evident that they must take exercise within their endurance power and under the supervision of their physician.

The Diet of the Obese

In reducing weight by diet great intelligence and care must be exercised. The object is not to take less food but to cut out excessive sweets, pastry, potatoes and bread. These articles should be greatly restricted, as should also green vegetables that grow above the ground, and fruits. For meat, lean mutton, lamb, beef and poultry are permitted, while pork is taboo. No water must be taken with meals. However, one should drink a glass or two of water one hour before or three hours after meals. This is necessary to flush the kidneys. Malt liquors and sweet wines are interdicted, although people accustomed to wine with dinner may have a small glass of claret and water. The patient should eat three regular meals a day, but avoid overeating, and not eat between meals; for to eat just enough to satisfy is ideal in the treatment of obesity.

The sweating process for the reduction of superfluous weight is dangerous and must be employed with caution. This is due to the fact that most of the methods of producing profuse sweating are based upon the application of a high degree of heat, as in the hot and steam-room of a turkish bath, which very often is deprived of the proper amount of fresh air. This prolonged and excessive heat increases rapid chemical changes in the body, with the result that the fat is rapidly burned or melted down and gotten rid of by means of perspiration and through the kidneys. Although this method breaks down fat it also has a similar effect, but in a less degree, upon the muscles, heart, nerves and secretory glands, doing harm and often leaving the patient in a weakened and depressed condition, with impaired appetite and broken sleep.

Reduction by means of massage is less objectionable because this manipulation can be applied just where most desired in particular regions, as the waist, abdomen,

neck and chest; but to do this without preceding muscular exercise is only a lazy way to take exercise and will avail but little in reducing weight. Active muscular exercise, restriction of diet to the proper amount, short hot baths followed by a cold shower after exercise, or a cold shower without the hot bath, and in addition an occasional saline laxative to clean out the entire intestinal tract, are the essential points to remember for those undertaking the reduction of excessive weight.

Some Experience with Obesity Treatment

By ERNEST F. ROBINSON, M. D., Boston, Massachusetts

EDITORIAL NOTE.—While Dr. Robinson takes up the matter of diet, to which he gives proper emphasis, he particularly dwells upon the drug treatment, the possibilities of which he very clearly shows, giving the methods which have brought him success.

THERE are few conditions that the average woman dreads more than she does obesity. In most cases this is not due to its effect on her health, but purely because of the way it effects her looks. As a matter of fact the majority think that they are unusually healthy.

Judging from what patients of this class have told me, I am of the opinion that the average physician either does not recognize that obesity always is a disease or else that he does not know how to treat it. The consequence of this is that the patient consults someone who does claim to be able to remove her surplus adipose—generally the advertising faker. There is no question that these men do reduce obesity, but only seldom permanently.

Obesity Is Readily Curable

It is this fact, perhaps, that has made the average physician of the opinion that nothing can really be done to cure obesity permanently. But this is a mistake. Except in the late stages, when fatty metamorphosis has occurred, I know of no disease more certain of a cure.

Mere stoutness is not obesity, and the fatness itself is not obesity, in any case, but merely one symptom of it, and in reality the least important, although you will never be able to persuade patients of this fact. Every physician knows what is the normal weight for each height. A condition of stoutness which does not exceed 20 percent in excess of this normal average is not obesity and does not need treatment as such unless the patient is rapidly gaining. I believe that whenever there is an excess over this 20-percent limit the individual requires treatment, and the sooner he gets it the better.

Obesity is strictly a disease due to improper nutrition. Its causes are, in most cases, exactly the same as those which in other patients determine thinness. Just why this is so, I do not know; it is a matter of the personal equation of the patient. I do know that in many cases I have reduced obesity with the same remedies which have been used to cause a gain in weight in other patients.

Conditious Favoring Obesity and How to Remove Them

In every case of obesity you will find either poor digestion, improper assimilation, or deficient excretion; usually all of them. The form of the indigestion is usually that of the intestinal kind, that is, imperfect digestion of fat, sugar or starch. Autotoxemia is almost invariably present to a greater or less degree. All of the organs of excretion may be at fault, but the bowels are most commonly to blame. Chronic constipation is so constantly present that it can practically be taken for granted—bearing in mind that occasional attacks of diarrhea are common in chronic constipation, and are, therefore, not an indication that that condition does not exist.

In treating a case of obesity, the first thing to do is to ascertain the exact condi-

tion of the excretion by the lungs, skin, liver, kidneys and bowels. Some of these will be found to be sluggish while others will probably be working to excess. The skin usually works overtime, so to speak. Learn also about the digestion and especially about the usual diet of the patient, both as to kind and amount.

To cure any disease we must, in the first place, remove its causes. The great trouble with the average obesity treatment is that the fat is considered to be the disease and all efforts are directed toward its removal. Mere fat is not obesity, and its forced removal is worse than useless—it is always harmful. Aside from the late symptoms due to fatty degeneration of the heart, the most dangerous condition in obesity is the enervation. Forced reduction increases enervation, hence will invariably make the patient worse. Pay no attention to reduction *per se*. Remove the causes of the trouble—the improper digestion, assimilation and excretion—and nature will take care of the surplus fat.

The Two Classes of Cases

For the sake of convenience, obesity-cases may be divided into two classes, namely, those with considerable indigestion and those with little or none of this symptom.

If constipation is marked and there is much trouble from indigestion, with intestinal fermentation, palpitation of the heart, and the various symptoms of autotoxemia well marked, my usual treatment is as follows, at least for the first month or six weeks:

Clear the bowels thoroughly. For this purpose give calomel, podophyllin and epsom salt in approved combination, one dose every half hour for from four to six doses. Two hours after the last dose give a teaspoonful of salithia, repeated if necessary every two hours until the bowels are clear. In some instances this treatment may have to be repeated next day, or the day after, perhaps even occasionally for several days. Clear the bowels thoroughly, that is the main point. When the bowels are clear the stools will be without foul odor.

During this clearing-out process I usually give one of the intestinal antiseptic combinations of the sulphocarbolates, one dose every two hours if necessary. In any case belonging to this class of obesity I usually give one dose of these intestinal antiseptic tablets at least four times a day. When there is much indigestion I give three before each meal of the "digestive" tablets, containing, each, strychnine arsenate, gr. 1-134; quassin, gr. 1-67; papain, gr. 1-3. If indigestion is not a marked factor these are not necessary, but if so, neither are the intestinal antiseptic tablets.

I have found that, as a rule, if one is indicated the other is. For the constipation, after the clearing out, I use the anticonstipation granules, Waugh's alkaloidal formula.

The other class of obesity cases, what may be called the milder class, do better on a different treatment. It will be understood, also, that the severe class just mentioned will, after a little, come under the head of the mild class, hence will, usually, change to the following treatment:

Control the liver, kidneys and bowels with salithia. Give one of the obesity tablets (colchicine, gr. 1-250; strychnine sulphate, gr. 1-67; berberine hydrochloride, gr. 1-67; caffeine, apocynin and alnuin, each gr. 1-6; phytolaccin, gr. 1-2; oil bitter orange peel, m. 1-24) from four to seven times a day. In most cases I give one dose before meals, one after meals, and one at bed-time, seven a day in all. Sometimes I give, instead, one of the obesity combination four times a day and one intestinal antiseptic (sulphocarbolates) four times a day. With this last class it is usually advisable to use the anticonstipation granule in place of the saline laxative also, owing to the fact that there is more constipation.

If rheumatism, sciatica, lumbago, or any form of neuralgia is a marked feature with the obesity, as is often the case, I give, in addition to the other remedies that seem indicated, a dose of calcalith, three or four times a day.

The important point in the medicinal treatment of obesity is that routine treatment

is impossible. You must know what you are trying to get rid of and adapt treatment so as to do the work.

Let me say here that I consider "obesity" a very unfortunate name for this condition, since it makes even doctors think that the fat is the disease. So long as the retained waste *must* stay in the system there is no safer form that it can take than fat. When you remove the real causes of the disease, the improper digestion, assimilation, and excretion, nature will remove the fat; and it cannot be removed permanently until you do remove these causes, and keep them removed.

The Problem of Diet

Now as regards diet. This is an important part of obesity treatment, but not in the way usually preached. Banting, or any approach to it has, in my experience, never done the slightest good, and I have seen it do a great deal of harm. Starvation is not only not necessary but it is invariably harmful. It increases enervation. Cutting down the supply of water to the lowest possible limit is nonsense, you cannot eliminate properly unless you have enough water in the system to keep the waste in solution. I believe that I have had to instruct more patients to drink more water than less of it. I have seen a few patients who drank too much, but they are the exception.

It is not so much *what* these patients eat as the *way they eat* it that does the harm. Most of them do not *eat* their food, no, they bolt it, swallow it whole much as a dog does meat. If you can teach an obesity patient to masticate his food as it should be, he (or usually she) may eat practically anything the appetite calls for. It may, possibly, in severe cases, be advisable (though perhaps not absolutely necessary) to limit fat-forming foods somewhat, but don't prohibit them.

First, no obesity patient should think it *necessary* to eat a regular number of meals a day. Absolutely nothing should be eaten at any time unless there is a *real* appetite. This does not mean faintness, "all-goneness," emptiness, headache, or any painful sensation. It means an "appetite," a pleasing desire for food, a hunger that would make dry, stale bread and cold water taste good.

Given this normal appetite, let the patient select any one or *at most two* kinds of food that the appetite calls for. This food should be chewed until it is liquid before being swallowed. Any part of it that cannot be so reduced to a liquid *must be rejected*. If swallowed, it simply creates indigestion and increases metabolic waste. Eating must be stopped the *instant* the real appetite is satisfied. Here is where, in hard cases, I advise eating not more than *one kind of food*, at any one meal, for the reason that variety will tempt the appetite, create a false appetite, and this is just what we do not want. The patient must not eat again, of any food whatever, until there is again a *true appetite*. It does not matter in the least whether this means one meal a day or six: get the appetite before eating, eat properly, and stop as soon as the appetite does.

If this regimen is followed to the letter, the patient may eat any kind of food that is desired, and may eat all that is needed, not only for strength but for the true appetite. Yes, I know this is Fletcherism, but it does the work.

If a patient's weight has been very much in excess of the normal, I do not consider it policy to try to force reduction. At the same time, if such persons will gradually reduce, without forcing to the normal, or even below it, let them do so. Do not force, that is the main thing. Let nature do the work, she knows her business.

After reduction is accomplished convince the patient, if you can, that it is worth while to live and eat properly so as to keep right. If any patient is fool enough to suppose that all the bad habits that caused the disease in the first place can be resumed without causing it again, why, there you are —you all have had them, of course.

I am satisfied that with proper treatment, and patient willing to follow advice somewhere to near as given, any case of obesity that has not reached the stage of fatty metamorphosis can be cured, to stay cured if the patient will live right afterward.

Nature's Forces in the Cure of Disease

By H. C. KIBBIE, M. D., Litchfield, Illinois

SHOULD one of our forefathers visit the earth today, what would be his astonishment. Turning a button he floods the house with light. Over the 'phone, in a second of time, he talks with people miles away. He sees the speeding automobile. He notices with astonishment that messages are sent without wires. With the Roentgen-ray he looks through objects opaque, and scanning the heavens dirrigible balloons and aeroplanes burst on his vision.

These things are the results of scientific research. And yet they are not marvels. They are the merest trifles compared with what one day we hope to accomplish. Notwithstanding what we have done, we are but in the infancy of our powers to fathom the depths of nature and learn her secrets. We are groping, but although in the dark, we shall unravel, tether by tether, the mysteries of the unknown.

Our senses are limited to five. O, that we had a hundred! At present we cannot comprehend the one-millionth part of the hidden resources of nature. We never discover anything until the force that is responsible for it has come in contact with something we can either feel, see, hear, taste or smell. But advances are being made along all lines and especially in the methods by which disease is treated.

Tremendous Gains in Therapy

Some of the most distinguished men in the medical profession have openly questioned the value of drugs in sickness, and many confine their endorsement to a half dozen socalled "specifics" which they are sure have proven of value in certain "specific conditions"—of these the use of quinine in chills is perhaps the best illustration. Their claim is, that only a few drugs, those seemingly having a selective action upon certain organs, have proven of *unquestioned* medical value, and the rest are as yet on trial.

Osler, the most distinguished medical man of modern times, is called a "medical nihilist," because, forsooth, while the author of works on practice and writing learnedly and extensively of disease, he avoids questions of medical treatment.

While that faith and confidence in "dosing" which possessed our forefathers has to a great extent been lost, we have none the less made tremendous gains in our knowledge of the successful treatment of disease. Medical practice has broadened. It embraces all the elements in nature, and though using less of drugs, and these of a more direct and positive action, it also employs with success physiological, mechanical and psychological methods a few years ago unthought of. All the light which nature and science have shed upon the world is being applied to medical practice today. Success, wonderful success from these new lines of medical thought, has resulted.

A vast number of diseases which until the advent of the alkaloidal granule had been treated only with more or less nauseous and unsatisfactory compounds, are now easily relieved and promptly cured by the use of nature's forces alone, or aided by drugs that are no longer disgusting mixtures of multiplied and many times antagonistic medicines, but are minutely fractional doses of a single pure alkaloid precisely directed to meet a precise indication. Thus medical practice has become revolutionized, and the results of practice have become more certain and satisfactory, in fact the forward strides of medicine are now equaled only by the advances of the last few years in surgical procedure.

Changes in the Treatment of Disease

It is interesting to note the great number of diseased conditions now treated—agreeably and successfully treated—by some one or more of the force modalities of nature, aided and assisted by the employment of the

delicate and potent alkaloids. Unless your attention has been called to it you can scarcely realize the extent to which this change in the treatment of disease has obtained among studious, thoughtful and scientific members of the medical profession. From my own personal experience I could cite many cases of diseases of differing characteristics, cured by the use of the natural forces and in some cases entirely without the intervention of drugs.

I shall say nothing about the common ailments and minor difficulties which are easily handled by ordinary medical means, but shall call your attention to those conditions which are most unsatisfactorily treated by the profession, for the reason that the results in this class of cases will best indicate the power and value of the natural forces in the cure of disease.

It is well, then, to know in advance what are the natural forces of which I shall speak, hence I will enumerate them, viz.: Electricity, Heat, Light, and Motion, or Mechanotherapy.

Under Electricity we shall consider the static, galvanic, faradic and high-frequency currents. Under Heat, all forms of thermic baths. Under Light, the x-ray and the different thermic and spectrum-rays.

Mechanotherapy being, according to Juettner, a collective term which includes all forms, methods and systems of exercise and of manual and instrumental manipulation of the tissues of the body, will therefore embrace exercise, Swedish movements, massage, orthopedics, osteopathy, vibration and oscillation.

Electricity: General Statement

All animals are electrical machines: brain and body form the battery, while nerves correspond to wires. Sensation is electric. The life-principle everywhere is electrical. The blood may be considered the exciting fluid and the nerves the wires. The Electric Age is here, in medicine as well as in other matters.

Instruments.—For satisfactorily employing the forces of nature in the cure of disease we must be provided with proper instruments for utilizing these forces. They are few in number and consist of the following:

The Static Machine.—First and foremost among electrical instruments, it is too well known to require description. I agree enthusiastically with Dr. Monell, who says: "Considered from every standpoint, a successfully operated static machine is without doubt the most surprising therapeutic weapon in the whole arsenal of scientific medicine."

The Galvanic-Faradic Cabinet.—Next to the static machine stands this most indispensable of instruments. It should be provided with a rheostat for controlling the current, a milliamperemeter for determining its strength, a coil for the coarse and fine faradic currents, and a rheotome for breaking the current at regular intervals. If, at the same time, it embraces the sinusoidal current, this will also be found of advantage in special cases.

Therapeutic Light.—Some form of therapeutic light is necessary in order that you may make use of the several spectrum rays found to possess valuable curative properties. A study of the literature of light as used in medicine will assist you in determining the kind which will most satisfactorily meet your demands. So many and varied are the diseases to which the therapeutic rays are applicable, that by many they are considered equal in value to the ordinary electric currents, and by some at least would be given first place in the armamentarium of force-modalities.

Electric-Light Cabinet.—The incandescent globe is rich in thermic rays, and a cabinet provided with these lights will demonstrate its importance as a physiologic and therapeutic agent, not only augmenting absorption, increasing appetite, and producing copious diaphoresis, but by its destructive power over disease germs and its stimulating effect upon physiologic metabolism. It is by all means the most agreeable, efficient and satisfactory form of thermal bath.

The Vibrator.—Juettner, in his "Modern Physiotherapy," says: "It is only by vibration that the forces of nature become manifest. Organic function is vibration. Nerve-energy is vibration. There is no life with-

out force and no force without vibration. Vibration is the elementary basis of all biology." This being true, its importance is evident. Vibratory stimulation is a feature of mechanotherapy and can be very satisfactorily effected by the hands of a trained operator; but there are many conditions in which an instrument actuated by the electric current will prove much more satisfactory than the hand. It should be borne in mind that vibration is produced by a long stroke and heavy pressure, stimulation by light pressure and short stroke, and vibratory stimulation by moderate pressure and stroke.

Hot-Air Apparatus.—The action of moderate degrees of heat is not the same as the action ot heat of high intensity. The advantageous use of hot dry air requires that it shall reach a temperature of from 200° to 400° Fahrenheit. Such a temperature contracts the arterioles, this action being followed in a very few minutes by dilatation and an agreeable flush. It relieves pain and muscular spasm, stimulates the cutaneous nerves and the lymphatics, and gives a glorious sense of well-being. The Betz hot-air apparatus, while inexpensive, will be found admirably adapted to the purpose for which it is intended.

Electrodes.—In connection with the electric machines enumerated, there will, of course, be required, the necessary electrodes for the proper administration of the currents. These vary in form in accordance with their adaptation to special uses. Among those absolutely demanded a set of the ultraviolet-ray electrodes must be included. These are cheap and easily obtained.

Miscellaneous Paraphernalia.—It is presupposed that a physician in general practice will be provided with the ordinary instruments of physical diagnosis. You should by all means be possessed of such electrically lighted speculums as the different cavities of the body demand. You should also have an electric head-light, and if you do any nose and throat work you will need a compressed-air atomizer. Provided with the instruments herein designated, and a volume of Juettner's "Modern Physiotherapy," you will be in a condition to demonstrate to your own satisfaction and that of your patients the value of nature's forces in the cure of disease.

Utilizing the Forces

We are now in a position to take up the treatment, but before going farther I desire to caution the tyro in physiotherapy against becoming a ridiculous enthusiast. Don't, for a moment, think that the force-modalities alone will cure anything and everything at all times. Don't undervalue the assistance of properly selected remedies. Don't discard tried and proven medicines while using the natural forces, but rather use the one as an adjunct to the other, and in this way find yourself doubly armed. There is scarcely a complaint in which the properly selected alkaloid will not prove a helpful auxilliary to the use of nature's forces and promote rapidity of cure.

Bright's Disease

This is one of the most serious of human ailments and is usually considered hopeless. However, the fact that many remarkable cures have been effected with static electrification is now fully established. Static electricity is an equalizer of the circulation and a great eliminator of morbid products. Dilating the capillary vessels and stimulating exosmosis, it sets up millions of vibrations which traverse the affected tissues and produce needed corpuscular motion. Electricity has been used in this disease only in very recent years, and it is in the real old prospectively fatal cases and not in the acute ones that good results have been obtained. The proofs are on record, have been thoroughly established, and they cannot be controverted. No harmful results can accrue from the treatment by electricity, and only in electricity is there hope, for it is a well-recognized fact that by drug-treatment alone all these cases go on to death. Physicians who scout this treatment do so because they have not investigated and are ignorant of results.

Electricity, in these cases of renal disease, reduces the inflammation, equalizes the capillary circulation, absorbs exudates, opens

up the uriniferous tubes and glomeruli, and the effect in many of these cases is truly wonderful. Cases too far advanced you cannot hope to *cure*, but taken early, you may checkmate the disease and postpone the undertaker's call for years. The disease is distinctly of nervous origin, and when the splanchnics and spinal cord become impaired it must be through the splanchnic and spinal nerves that the kidneys are reached and affected. What is so likely to effect this result as the electric current?

It is a noticeable fact that ministers, doctors, lawyers, board-of-trade men, and persons who keep themselves under mental strain and excitement, are the ones affected by Bright's disease. Laborers almost never have it. This disease belongs to those who constantly exhaust the sympathetic nervous system, and therefore, if to be cured, it must be reached through the great central nervous system where it originates. Static electricity, which is able to contract a pupil dilated with atropine, has a most direct and decided influence upon the central nervous system and is the only thing which will satisfactorily reach and modify the action of these affected nerve-centers.

Some Nervous Diseases

Locomotor Ataxia.—Unfortunately no form of treatment, up to the present time, has been recognized as reliable and satisfactory. Speaking of the use of electricity in this disease, Dr. S. H. Monell (than whom there is no better authority) says: "Static electricity will do more to relieve pain and maintain a degree of comfort than all other agents." The continuous currents, static spray, sparks to the spine, the electric brush, hydroelectric baths, and light-rays to the spine, have all been found of value. Massage to the spine has been found of decided value in certain cases, and special coordination exercises will assist greatly. One case, that in connection with the treatment here outlined, was placed on chromium sulphate, 4 grains four times daily, and has apparently fully recovered.

St. Vitus' Dance.—Electricity bears a most satisfactory reputation in this disease. The galvanic current and the static currents, all serve admirably in controlling the erratic nerve-storm, as do the light-rays to the spine, and massage of the spine as ordinarily performed, or performed by the use of a mechanical vibrator. In the treatment of these cases the properly selected alkaloidal drugs will be found to assist greatly in securing promptness of cure.

Epilepsy.—The continuous current—negative electrode to the feet and positive mobile to the spine—I have found to be of decided benefit in this disease. Central galvanism and general faradization afford relief to a decided extent in the majority of cases. The violet light to the spine, daily, works wonders at times. Remember to search for the cause and let your treatment be suggested thereby. In these cases the properly selected alkaloids will greatly assist in obtaining satisfactory results and their use should not be neglected.

Shaking Palsy.—I do not think it is safe to promise a cure in paralysis agitans, but I do know that I have never seen a case that I could not benefit. I personally know of cases that have apparently fully recovered under alkaloidal treatment reinforced by central galvanism and static insulation. Mechanical vibration to the spine and the affected muscles often proves of great value, and the use of the violet light to the spine daily for fifteen minutes gives, at times, most satisfactory results. The trouble with these cases is that they are prone to recur upon overexertion or the least irregularity of life. In this disease I have had the best results from prescribing, in connection with electricity, alkaloidal medication with hyoscine hydrobromide, gr. 1-500 to gr. 1-250, from three to four times a day, gradually dropping off 1-1000 grain as improvement in the conditions warranted. The results have been surprisingly happy.

The Genital Diseases

Gonorrhea.—Very troublesome cases of this disease, in the male, I have seen to yield readily to the application of water by hydrogalvanism. Electricity used externally I have found to relieve pain and diminish congestion after acute inflammation had sub-

sided. The therapeutic lamp I have found very valuable in acute cases, as the light-energy easily penetrates the tissues to the seat of gonococcic infection, a point that an ordinary injection often fails to reach. In the female the great majority of cases are primarily urethral, and should be treated promptly to prevent the extension of the disease. In these cases of urethritis nothing equals copper electrolysis. Use the Neiswanger cataphoric urethral electrode, positive pole and continuous current, 5 to 10 milliamperes for five minutes. If thought best, a 4-percent solution of cocaine may be used to anesthetize the urethra previous to the introduction of the electrode. Results will often be advanced by the use of such antiblennorrhagic remedies as the case seems to demand.

Gleet.—Some cases that have lasted for years and that have been subjected to all the orthodox treatments, I have found to yield promptly to a mild galvanic current.

Seminal Emissions.—These are usually due to reflex irritation from some central or peripheral cause, and they demand either the sedative, stimulating, tonic or equalizing effects of electrification. It is my opinion that the properly selected electric current will do more to relieve these cases than any medicine, but at the same time the indicated alkaloidal remedy will greatly assist. Where the cause is psychic the high-frequency vacuum electrodes will be found valuable. Not only will the current itself have a decidedly curative action upon the urethral membrane, but the play of currents in the glass urethral electrode will profoundly impress the mind of the patient and greatly promote a cure. Under this treatment the melancholy visage that first confronted you will glow with the sunlight of hope, and when this occurs, the battle is half won.

Where there is true urethral hyperesthesia you must expect far-reaching complications. From it will arise a host of troubles, e. g. dyspepsia, palpitation, neurasthenia, melancholia, and loss of vitality. Give the patient a "cheer-up" talk. Use cold sounds. Use the common insulated urethral electrode with galvanism, negative to sound, and positive to hand of patient. Employ a current strength that will give no pain or unpleasant sensations, for five to ten minutes at a seance. As the patient improves, use the fine faradic current occasionally. Build up the patient with the triple arsenites and nuclein.

Impotency.—In my hands no treatment has proven superior to mechanotherapy. Manipulation and vibration from the first to the fifth lumbar vertebra will reach the nerve-centers, controlling the sexual functions in both sexes. The manipulations should either stimulate or inhibit, as the characteristics of the case demand. The galvanic currents and the faradic currents are valuable. Galvanism promptly increases the supply of semen in the same way that it increases all other secretions. Where desire is lacking, and results are incomplete and unsatisfactory, especially if there is a moist, cool, flabby condition, the use of almost any of the stimulating electric currents will result in improvement. Where the condition is the result of obesity, exercise, massage, the incandescent-light cabinet, spinal showers, and diatetic and hygienic treatment will be demanded.

Stricture.—By the use of the electric currents all forms of stricture are treated with the full measure of success, and some varieties of stricture yield to no other system of treatment so readily. Cutting of strictures is almost never demanded when the diseased condition can be reached by the negative galvanic current. No genitourinary specialist is up to date that does not understand the simple and certain treatment of stricture by electrolysis. It is devoid of pain and universally satisfactory in results. The technic of this treatment can be obtained from any textbook on electrotherapeutics. Thiosinamin, a comparatively new remedy, is now being employed with marked success in the more-severe forms of fibroid strictures, and its value in these cases should not be overlooked. It may well be employed as an adjunct to proper electrical treatment.

Enlarged Prostate.—This very troublesome and serious disease is treated with the great-

est success by galvanic cataphoresis. It is so certain and so uniformly satisfactory, that the dangerous operation of extirpation of the gland is almost never advised by those who have had experience with the galvanic current in these cases. The cataphoric treatment by the use of Neiswanger's prostatic electrode has proven one of the greatest advances in genitourinary practice. Good reports of the effects of the several caloric and chemical rays are also now being made. The blue rays are said to overcome the spasmodic pains, lessen the flow of urine, and relieve the state of tension under which the patient suffers, and many cures are reported as having been effected.

The chronic enlargement of the prostatic gland is not a true hypertrophy, but, like a stricture, is the result of an inflammatory process to which the accumulation of tissue is due. I have seen no account of the use of thiosinamin in these cases, but if it is a lymphagog which attacks leukocytes and produces local hyperemia, I am inclined to believe that a new field opens up for its use in prostatic troubles

Old-Age Infirmity

The assimilative powers of the aged are at a low point, and the results of stomach medication are not as reliable as in those of more vitality, and it is in this class of patients that the forces of nature can be best relied upon. Here electricity is the great agent. No method of treatment elicits such expressions of satisfaction, no remedy is so swift and permanent in its action. The static insulation current used in these cases will both astonish and delight you. Never lose sight of the fact that nothing promotes degeneration of vitality so much as the absorption of toxins from the bowels into the blood. Burggraeve, the founder of dosimetry, took a small dose of saline laxative every morning of his life, and he lived to the age of one hundred years. This "pointer" will direct your attention to the value of effervescent magnesium sulphate in senile conditions. At the same time, neither the dosimetric trinity nor the triple arsenites with nuclein should be forgotten.

Sciatica.—This intensely painful affection, which gives the physician as many worrisome hours as anything he meets, is handled by the natural forces with most satisfactory results. Galvanism or the static induced currents always give more or less relief and often result in a prompt cure. The therapeutic light, used from hip to heel over the course of the nerve, will be found effective, sometimes curing in one application. The hot-air cylinder reaches with great promptness those cases to which it seems specially adapted. The mechanical vibrator, used over the entire course of the nerve, has promptly cured in numerous instances. Remember that these cases require the electrotonic action of the building-up currents, therefore general galvanism and static insulation should never be neglected. Put your patient on the arsenite of iron and arsenite of quinine or the triple arsenites with nuclein, and stimulate secretion and excretion in every manner. Build him up with everything that makes for good red blood. If this plan is followed, the electrotherapeutist need not fear to meet this usually most stubborn and intractable of diseases.

Itching Eczema and Other Skin Diseases.—Eczema is the most common as well as the most troublesome of all skin diseases. The moist form is disgusting, the itching form intolerable. Every physician can bear testimony to the inadequate and unsatisfactory character of ordinary treatment. Here it is that electricity, especially the therapeutic light, gets in its perfect work. Armed with this weapon, eczema will no longer be your *bête noir*. Nor need you fear to accept the treatment of any skin affections, for the galvanic and static currents, the violet rays and x-rays, will, some one of them at least, be found to give satisfactory results. Your patient who said, "Oh, Doctor, I can't stand this itching," will bless the Lord for the "therapeutic light" or the "Crooke's tube, and the doctor who knew how to use them.

Rheumatism.—Muscular rheumatism usually gives way promptly to the static induced current. Chronic articular rheumatism, which yields with such exasperating slowness to the influence of drugs alone, can be much more

satisfactorily treated by employing at the same time either the electric-light cabinet, mechanotherapy, the violet rays, or lithia or soda salts by phoresis to the joints. In all these cases do not depend alone upon the forces of nature for cure, but use such antirheumatic remedies as have proven their value. In no class of cases will the rule, "clean out, clean up and keep clean," be found of greater necessity. Don't lose sight of the specific virtues of colchicum in rheumatism. A hot saturated solution of magnesium sulphate to the affected joints will do good. Put the patient upon calcalith in connection with the use of the forces suggested, and see how promptly all symptoms will disappear. Don't make the mistake of thinking rheumatism due to humidity. Experience has taught me that there is more rheumatism to the square acre on the arid plains of western Texas than in all the rest of the state.

Leg Ulcers.—You know the trouble you have in curing them. Let me give you a treatment that is thoroughly dependable and yet "so easy." Cover the ulcer with sheet lint wet with salt solution, apply the positive pole of the continuous current, attached to a flat copper electrode, moving it over the surface of the lint until the lint is dry and shows a greenish tint. Leave the cotton sticking, and let the patient go about his business. Don't disturb the cotton until it becomes loose, unless matter forms under it. When it drops off the ulcer will be found healed.

Nasal Catarrh

When the posterior nares are affected nothing gives more relief than iodoglycerin on a swab applied to the region. In the hypertrophic forms of rhinitis I use the positive pole of the continuous current. The positive galvanic current is a true vasomotor constrictor, and when used with a solution of adrenalin chloride, 1 : 1000, applied on cotton at the end of an insulated copper wire and introduced well back into the nares, using from 3 to 5 milliamperes of current for five minutes three times a week, it will promptly relieve this class of cases. Where there is a raw and ulcerated surface with a tendency to bleed, insufflation of finely powdered acetanilid will give good results. Benefit will be derived from the more or less constant use of mild oily applications slightly mentholized, employing for this purpose an atomizer or an ordinary medicine dropper. If there is constant hawking and spitting, use atropine, gr. 1-500, with a dosimetric dose of aconitine and of arsenite of strychnine every hour or two until the annoyance ceases. Don't forget the value of alteratives in these cases, and give calcidin in 1-grain doses four times a day straight along.

Diseases of Women

I have, up to this point, detailed the results derived from the employment of nature's forces in the treatment of some of the diseases most troublesome and difficult to handle with drugs alone. The limits of this paper will not permit me to take up the treatment of diseases peculiar to females. Suffice it to say, it is in these latter that nature's forces have won their most enduring laurels, and if permitted, I shall consider this highly important subject at length at some future time.

"I BELIEVE in gittin' as much good out of life as you kin—not that I ever set out to look for happiness; seems like the folks that does never finds it. I jes' does the best I kin where the good Lord put me at, an' it looks like I got a happy feelin' in me most of the time."—Mrs. Wiggs.

Artificial Abortion, Criminal and Therapeutic

Its Relation to Ethics and Sociology

By CHRISTIAN JOHNSON, M. D., Willmar, Minnesota

EDITORIAL NOTE.—This article is a further development of Dr. Johnson's views, as presented in the January number of "Clinical Medicine", page 81, and a reply to the editorial comment thereon. It should be read in connection with the article by Dr. Flynn which follows. A brief discussion of the subject will be found in the editorial department.

IN considering this subject, I shall be absolutely candid. We have handled this abortion-question in a routine, superficial way. I know of no writer in this country who has attempted to discuss it from a modern, scientific standpoint. We have been contented with parading the old threadbare stock phrases about the evil of criminal abortion without as much as even making an attempt to study seriously the factors involved. If the following contribution shall help to awake the profession of this country to a study of this problem as we have of others confronting us, my object is attained.

Artificial abortion, criminal and therapeutic or prophylactic, is a large subject of vast ramifications. It is part of the sexual question, is at the bottom of the white-slave trade, is vitally related to race suicide and race degeneracy, and it involves the problem of the mentally defective. By our man-made laws it is a crime, yet to thousands of good women throughout the land, the victims of men's passions, it is the only alternative to suicide.

The Enormous Number of Abortions

The most monumental fact that strikes the student of the abortion-question is the universal violation of the laws against criminal abortion everywhere, and with impunity. There are said to be 100,000 artificial abortions annually in New York City, and from 6000 to 10,000 in Chicago (*Journal of the American Medical Association*, Vol. 51, p. 958), and probably the same proportion to population elsewhere. *Criminal* abortions, be it understood—and yet the prosecutions are confined to a few isolated cases of midwives or quacks, and that only in notorious cases where the victim dies under aggravated circumstances.

Now, why is this so? Evidently because public sentiment is opposed to the enforcement of the laws against criminal abortion. Dr. R. W. Holmes of Chicago was, some time ago, chairman of a committee to investigate and to attempt to enforce the law against abortionists. Here is what he says: "I have come to the conclusion that the public does not want, the profession does not want, the women in particular do not want any aggressive campaign against the crime of abortion." (*Loc. cit.*, Vol. 51, p. 960.)

Now, what is true as to the public sentiment on this question in Chicago is no doubt also true elsewhere. Neither the public, the profession nor the women want abortionists prosecuted. But if some unfortunate victim happens to die from sepsis following abortion, then the very party who solicited the midwife or doctor to do the work—and generally with the help of some rival midwife or doctor—is determined to bring the criminal to justice.

Criminal Abortion Compared With Other Crimes

It is evident that in the estimation of the public the crime of abortion is a very different kind of crime from murder, robbery or stealing. If either of the latter crimes were committed once where socalled criminal abortion is committed ten times, the whole community would rise up in arms and lynch the perpetrators.

Now, it is well, in this connection, to remember that what is declared by statute law to be a crime may not be ethically wrong—in fact may be a moral duty, and so *vice versa*. This was the case with the fugitive-slave law. This law compelled every loyal citizen under pains and penalties to return fugitive slaves to their masters, while the duty of ethics and morality bade the individual conscience to send the slave to Canada. Hence the fugitive-slave law could not be enforced except in isolated cases. May it not be that our abortion laws are also defective in some such manner and therefore incapable of enforcement?

Artificial abortion is the premeditated destruction of the fertilized egg *in utero*.

Now, to a normal, sane woman, under reasonable conditions for the development and natural growth of her fetus, there comes no thought of doing away with it. On the contrary, the happiness of her whole being is wrapped up in her endeavor to cherish and preserve it. Her maternity-instinct—the holiest sentiment on earth—is centered on her growing babe. Every mother virtually risks her very life for her baby, and does it gladly; yes, very often she gives it up that her unborn child may live.

When Pregnancy Is a Mistake

But, unfortunately, under modern conditions of life there is many a woman who finds herself pregnant who should not have been so. That is, she is not in a position to do justice to herself or her child. No matter whose fault it is, her pregnancy is a mistake. The more she realizes this the more she comes to dread it, to hate herself and her embryo, and hence to want to get rid of it. I am not now inquiring how far this feeling on the part of this woman in the condition mentioned is justified or not. I simply state the fact that these cases exist among the married and the unmarried.

Now, what is the relation of the State to this woman whose pregnancy is a mistake so far as the mother and the child are concerned? For the State, or the public, has an interest in her and her child—the interest of self-preservation. Should the State compel her to bear this embryo to maturity and assume the burdens of a mother to a child she does not want, because, indeed, some man in a moment of her weakness took advantage of her passivity of character—and impregnated her?

I am not now discussing the ethical right of the woman, I shall come to that later. I am simply inquiring whether it is policy for the State to compel any woman to bear a child against her positive inclination? Does the State want the unwelcome child? Will a child born under such circumstances make a good citizen, or will it be one of those who are a burden to society?

The Change in Social Standards

In trying to answer these questions we are forcibly reminded that our standard of life has changed wonderfully during the last one hundred years.

A hundred years ago, in Europe, society was divided into the classes and the masses. The masses, the soldiers and the wage-workers were needed in quantity, irrespective of quality, and hence stringent laws were passed to preserve everything human that would make a soldier or a peasant. But under modern advanced moral views, and especially in this country, the ordinary masses of the population are not simply common food for the cannon nor working chattel, but human beings entitled to a chance in life for individual mental and material progress, and in any event, in case of sickness or disability, to be cared for by the public in a humane manner.

Hence, the population-problem before the civilized nations today is not simply quantity but, rather, quality. The danger to civilization today is not race suicide but race degeneration. Notwithstanding our enormous outlay on educational agencies, secular and religious, the percentage of our defectives and criminals is steadily increasing at a fearful rate.

The Defectives a Burden Upon Society

Dr. H. C. Sharp of Indianapolis (*Journal of the American Medical Association*, Vol. 53, p. 1898), gives statistics for the enormous in-

crease of defectives in the state of Indiana. I have not the statistics at hand for Minnesota, but it is the same story. Notwithstanding that we are continually building new additions to our schools for the feeble-minded, to insane asylums and penal institutions, they are all overcrowded, filled to repletion with defective humanity—people whose birth was a monumental mistake and in many cases a moral crime against the public, not to speak about the lot of these miserable semblances of humanity themselves.

Not long ago Federal Judge C. Amidon of North Dakota (and, by the way, one of the prominent legal minds in the country), in a speech at Fergus, North Dakota, advocated the painless execution of the "professional criminal" and the "hopelessly insane." Among other things he said, as reported in *The St. Paul Dispatch:*

"'The people are taxed to care for the criminal, and if the money could be available for the education of good young men it would not be money thrown away, as it appears to be now. The percentage of the professional criminals who are reformed is so small as not to be worth mentioning.' He wouldn't hurt either these professional criminals or hopelessly insane, but would put them to death in a humane manner and so relieve them of their power to work evil in the one case and put them out of their misery in the other. He thought that a man walking down the path of life quietly and in good order and molesting no one should be protected from the desperate criminal in every way."

Judge Amidon further pointed out that the expense of keeping our defectives is truly appalling, and that this will, before long, compel the normal moiety of society to take drastic measures to protect itself from this ever-increasing flood of defective humanity.

What, then, is the cause of this human degeneracy? The answer is simple. Allowing human defectives to propagate their kind without restraint, and letting chance, accident, passion, folly and debauch determine when another human being shall be begotten, rather than judgment, common sense and ethical consideration; and then preserving every human conception whether it has a chance for normal, healthy development or not.

Preventive medicine, however, I conceive, instead of putting adult defectives out of existence by chloroform or morphine, would prevent the fertilization, and in cases in which that cannot be done, the development of an ovum that inevitably must result in a human defective.

As to where the line is to be drawn between the normal and the abnormal of the human embryo, science is not yet ready to speak. But facts are accumulating on the subject, and we shall soon be able to give advice of great value to humanity.

Transmission of Defects to Offspring

For instance, we know that defectives transmit their objectionable qualities to their offspring. Thus we know that alcoholic intoxication in the father while begetting his child will doom the latter to idiocy, insanity or related nervous defects. Also, that mental and physical strain in the mother while carrying her babe will make it an invalid for life; the latter fact explaining the well-known phenomena that practically all illegitimate children are defectives; the grief and shame of the seduced and deserted girl making it next to impossible for her to bear a normal, healthy child.

So, with these facts staring us in the face —the ever-increasing percentage of defectives as the result of the violation of the laws of heredity and environment—is it not evident that something is wrong somewhere? And may not that wrong be in our abortion-laws? May it not be possible that if the woman pregnant under unpropitious circumstances had the right to terminate that pregnancy in its early stages (as she had under the common law up to a later period), is it not probable that much of this defective humanity would never be born?—a blessing to all concerned. In other words, would not the maternity-instinct of every woman fit to be a mother be ample guarantee that every child that ought to would be born into the

world? Surely, with these conditions in mind, it is more than doubtful whether there is any justification at all for our abortion-laws, viewed from the interest of the public.

What Are the Woman's Rights?

We now turn to the woman. Considered, from her standpoint, as a citizen, as a person, as a mother, what are the woman's rights as to submitting to an artificial abortion?

Under the common law of England down toward the end of the eighteenth century abortion before quickening was no crime. This law-custom was based on the old Germanic idea of the right of a woman to her person and her honor alongside of the man. But with the Christian religion we Germanic people also got the Oriental philosophy about women. The woman ate of that apple, and led poor Adam astray. She was a chattel for bargain and sale. She was unclean—it was "not good for a man to touch a woman" (Paul), and, anyhow, was good only to gratify his ungovernable passions, and later, incidentally, to raise soldiers for princes and kings.

These misogynistic views, though never accepted by the Germanic races, have nevertheless influenced our literature and laws on the subject of woman's rights, and ascetic sexual dogmatists have spent valuable time and wasted much ink elucidating the rights of the State and of the rights of the fetus as always superior to those of the human female with child. Even in this enlightened age there are writers who maintain that an operation for ectopic pregnancy is not permissible; that notwithstanding that the fetus cannot survive in any event, it must not be sacrificed in order to save the mother. In other words, the mother must be offered upon the grave of the fetus just as some heathen tribes sacrifice the wives on the graves of their dead husbands.

However, we are beginning to see clearer that a woman, even if she is pregnant, is a person and has rights to life, liberty and happiness, exactly the same as a man, and that, while her chief function in human society is maternity, she has individual and personal rights paramount to her duties to the race.

When a Woman May Demand the Destruction of the Fetus

We therefore recognize that a woman has a right to demand the destruction of her fetus:

1. When her life is in danger or her health seriously threatened by the pregnant state. This right is now recognized in the laws of all nations of Germanic origin. Dr. Charles B. Reed of Chicago a few years ago, before the Chicago Medical Society, stated this question very aptly as follows: "Where certain diseases and complications appear to exist during the course of gestation and threaten the integrity of the case, a broad human sentiment now permits, nay, even demands the destruction of the fetus. When the situation occurs before the viability of the child, it is recognized as prophylactic or therapeutic abortion." (*Medical News*, Jan. 28, 1905.) Dr. Reed enumerates certain diseases and disabilities in the pregnant woman that justifies the operation, such as tuberculosis, cardiac, renal and other organic diseases, and insanity. Dr. Jewett of Brooklyn goes over practically the same ground. (*Journal of the American Medical Association*, Vol. 50, p. 1652.)

Therapeutic or prophylactic abortion for the wife among the poor, the mother of more children than she can decently take care of, is a subject of vast sociologic import; it is now very often performed and ranks as one of the distinctly humane medical advances of recent years. This wife, under the circumstances I have indicated, is not seldom married to a man whose passions know no restraint and who will not permit any preventive measures to interfere with his pleasures; thus the poor woman is for years either pregnant or nursing, and sometimes both; until at last she sinks into the grave from sheer exhaustion, leaving half a dozen motherless tots to a cold and cruel world.

The real remedy for this inhumanity to woman would be vasectomy of the man, for which thanks are due to Dr. Sharp of Indianapolis. But until we can get the

man to submit to this we must help the woman, both for her own sake and for the sake of her little ones, by promptly emptying her womb.

Pregnancies Following Rape

2. When the woman has been impregnated by rape or gross imposition. Are rape-pregnancies rare? By no means. Only the woman does not make it known unless circumstances compel her to do so. Besides, the popular conception of rape is wide of the mark. People unfamiliar with this question think that rape is intercourse by sheer physical force with a strong healthy woman who succumbs to the ravisher after vigorous resistance. However, Dr. Emerson ("Legal Medicine and Toxicology," p. 114) defines the meaning of the phrase "by force", in the statutes relating to rape, as follows:

"The term 'by force,' which is used in the above legal definition (of rape), implies force that is necessary to overcome the will of the victim. This force may be physical or moral. The law makes no distinction. There are many instances where the crime has been committed in which the woman was incapable of showing that her consent was withheld. The ravisher may threaten by word or action, so that the victim makes no resistance, and the crime is unlawful. The victim may be under the influence of narcotics or in some physical condition, as in hysteria, and hypnotism, and unable to express her refusal; and in these cases it must be held that the crime was committed 'by force.' The resistance that the victim is required to show is the utmost resistance that she is capable of, this depending, of course, to a certain extent, not only upon her physical vigor but also upon her mental condition. Sometimes a strong muscular woman may be so frightened that she cannot exert her usual resistance."

This definition of rape practically covers the process of seduction for the white-slave trade by the "cadets," and the more usual old-time seduction in wine-rooms of young girls in all our large cities. As to what I mean by impregnation by gross imposition I will show by quoting Dr. Denslow Lewis of Chicago: "Those of you who like myself have had charge for years of maternity hospitals, know that many young girls seen there have submitted to the sexual act without the slightest knowledge of the probable result." *Journal of the American Medical Association*, Vol. 51, p. 960.)

From every consideration of fair play and justice to the miserable victim of the brutal sexual passion of man every woman of the class above mentioned should be conceded the right of an artificial abortion. Dr. Ford ("Sexual Question," p. 409) says: "In cases of rape and forced pregnancy in general the right to artificial abortion should be conceded to the woman."

It is really remarkable that in this enlightened age that has liberated the black slave there is still no legal justification for relieving a woman of a fetus that has been forced on her by a brutal ravisher. But men who make the laws will raise a mob to lynch the ravisher, yet not lift a finger to redress the injury done the victim!

Betrayal Under Promise of Marriage

3. In many cases of betrayal under promise of marriage resulting in pregnancy and desertion. I wish to remind my reader that I am calling things usually evaded in a discussion of this kind by proper English names. The class of cases now under consideration is represented by "Gretchen," immortalized by Goethe in "Faust."

There is no more pathetic figure in poetry, drama or human history than Gretchen. This is because in Gretchen we have all the ideal attractive and lovable qualities of young womanhood, youth, health, beauty, innocence and sentiment that go to make the ideal wife and mother; and all of this possibility of human happiness wrapped up in this simple blooming maiden is destroyed, nay, worse, converted into a living hell here on earth by the ungovernable male passion of that sensual man Faust. Had an honest youth met this innocent maid just at that time in her life when her whole womanly nature was waking up to the sensations of yearning for a man's love, she

would have become the ideal wife and mother. As fates would have it, Faust met her and blasted her life.

The psychology of the maiden in her first love is an interesting study. Physicians ought to understand something about it. Asexual individuals or the licentious need not try to grasp the idea.

"In the young girl love is a mixture of exalted adoration for masculine courage and grandeur and an ardent desire for affection and maternity. She wishes to be outwardly dominated by a man, but to dominate him by her heart. This sentimentalism of the young girl, joined with the passive role of her sex, produces in her a state of exaltation which often borders on ecstacy and then overcomes all the resistance of will and reason. The woman surrenders herself to the man of whom she is enamored or who has conquered or hypnotized her. She is vanquished by his embraces and follows him submissively, and in such a state of mind she is capable of any folly." (Ford, "Sexual Question," p. 130.) And so Gretchen:

"Seh' ich dich, bester mann, nur an,
Weiss nicht, was mich nach deinem willen treibt."

Gretchen the Victim of Suggestion

Gretchen is the victim of suggestions of the powerful mind of Faust. Faust, indeed, truly loves Gretchen—after the manner of man's love—but he lets amorous intoxication get the best of them; and then he forgets her for other matters until it is too late. He wanted sexual gratification and forgot all about the inevitable fate of Gretchen, and left her to suffer alone just as the tribe of Fausts are doing throughout the civilized world to this very day. Soon Gretchen realizes that the man whom she loved and trusted has betrayed her. She now sits at her spinning wheel and sings:

"Meine ruh ist hin,
Mein herz ist schwer;
Ich finde sie nimmer
Und nimmer mehr."

At the well, after talking with Lieschen, she regrets that she has been so severe a judge before on the fallen *maegdlein*—she is now fallen herself, yet:

"Doch—alles was dazu mich trieb,
Gott, war so gut! ach, war so lieb!"

And so poor Gretchen goes on, the victim of her womanly nature and man's perfidy, in her downward course of misery and ruin, dragging with her her mother, her brother and her babe, until her last stand, hope not yet dead in her young bosom:

"Erbarme dich und lass' mich leben!
Bin ich doch noch so jung, so jung,
Und soll doch sterben!
Schoen war ich auch, und das war mein verderben."

The Army of Gretchens

Day before yesterday the Minneapolis paper told of the fishing out of the river of a body of a young, beautiful woman—it was Gretchen. Yesterday the papers recorded the death, in a hospital, of sepsis after abortion of a beautiful café-waitress, the only support of an invalid mother. Gretchen again! Today the same tale, only with a little variation. All can sing:

"Schoen war ich auch, und das war mein verderben."

And so on and on, in unending processions this vast and innumerable army of Gretchens is marching by—all suffering the tortures of hell, in anguish of mind, in despair of the future, the scorn of their comrades, despised and ostracized of the public—to fatal sepsis, suicide, insanity, or a life of shame! They are the veritable travelers from Jerusalem to Jericho who have fallen among thieves, thieves who have stripped these loving, confiding girls, not of their money or property, but of what is more than property, more than life itself—their honor and future hope and prospect in life, and left them wrecks upon the shores of time.

And we who pride ourselves on our Christian civilization, with our church spires reaching toward heaven in every village and hamlet in the land, we priests and Levites and Pharisees, what have we done, what are we doing to relieve these bleeding victims of man's lust and perfidy? We passed by on the other side of the road, shrugging our shoulders at the unclean thing, the while calling the man that is the cause of all this misery "smart." And no good Samaritan has come along; except, perchance, it be some big-hearted physician

who would help a fellow being in trouble even if he had to violate the law and does so.

The Remedies Proposed

Here let me say, I have studied all the remedies that have been prescribed for Gretchen by the church, the law, and the medical profession, from the education of the youth in sexual hygiene to the shelter of maternity. All of these things, the agencies designed to prevent lapses and to aid the fallen are good as far as they go; but they are makeshifts only in the great majority of cases.

If society wants to save Gretchen, she must be given a chance in life; and the only measure worth mentioning is prompt abortion in cases where this measure is honestly deserved.

Dr. Ford ("Sexual Question," p. 411) holds that artificial abortion and even infanticide is justifiable in many of these cases, and that a counsel of physicians should be created with the power to decide when the measure should be applied. I am satisfied that there are many cases of this kind in which abortion is morally justifiable because it is the only measure that can save the woman for future usefulness and a bearable life. In these cases it is in fact therapeutic abortion in the truest sense of the word.

We know, further, that abortion is performed in many of these cases, and that by prominent members of the profession. Dr. R. W. Holmes of Chicago says: "I have positive evidence that prominent men in Chicago (and Chicago is not different from other cities) will commit abortion." (*Journal of the American Medical Association*, Vol. 51, p. 960.) Why, then, be hypocritical about this matter? Why all this hue and cry about abortion when prominent men are performing it? Isn't it evident that we need a re-study of this whole subject?

The Right of the Fetus

There is one more phase to my subject: The right and status of the fetus.

Formerly, before the general facts of biology and human embryology were known, human conception was considered a miracle of divine interposition. Ordinary people who do not know of the advances of modern science believe so yet. Hence, regarding conception as a direct act of Providence, it was an easy inference that parents were not responsible for the character of their children, nor need be much concerned with making any provisions for them.

But modern science, that moved the earth off its foundation and set it twirling around the sun, has also upset the old theory of human generation. We know now that mankind is propagated according to the general laws of biology. The fate of the individual human unit is not in the stars but in his chromosomes. In fact, conception is not a new creation at all, but only a new combination of two groups of the chromosome stock of the species to form another individual. These chromosome groups carry with them their racial, specific and individual characteristics.

Further, modern investigation has shown that these chromosome-factors of the human unit do not blend but run parallel or alternate in their influence. And here we have the explanation of the different tendencies and inclinations in races and individuals. The Apostle Paul thought it was the Holy Spirit and Satan who were contending in his body for the mastery, but actually it was the chromosomes derived from moral and immoral ancestors.

But the individual human being is also subject to the influence of environment, especially so while in its early immature stage. Even the generative cells while on their journey to their conjunction may be subjected to noxious influences that may blast the career of the embryo. We know, for instance, that the father may be of good stock, but a temporary alcoholic intoxication at the time of impregnating the mother may so affect the formative energy of the spermatozoon as to result in a defective nervous cell in the child, resulting in idiocy, insanity, or other defects of the nervous system. We know further that both parents may be of good heredity and the embryo well formed, yet mental and bodily suffering

in the mother during gestation may blast the life-long well-being of the child. And common observation teaches us that proper care and training from infancy to maturity is necessary to get the best out of the human individual.

It is these biologic laws of heredity and environment that form the basis for the modern views of the status and the right of the human fetus.

The Fetus Has a Right to Normal Life

The human fetus has not only a right to life, it has a right to normal life. It has the right that it shall not be brought into the world doomed to spend its existence in misery and suffering. It has the right to be born a healthy, normal human being, not a monstrosity.

The duty of the State to protect the fetus does not begin at conception, it begins long before that. The State may, and should, sterilize male and female defectives (Dr. Sharp, *Journal of the American Medical Association*, Vol. 53, p. 1899), and may destroy the abnormal fetus, or being, at any stage of its career, in the interest of society, of the mother or of the fetus itself. (Judge Amidon, *loc. cit.*)

To show how the public is waking up to the importance of the sociological aspect of this question I will quote from *The St. Paul Dispatch* (Dec. 2, 1909) part of its comment on the views of Judge Amidon.

"Have you ever been through the state school of Faribault, or the state hospital for the insane at Rochester, or the state's prison at Stillwater? If you have, then I think you will admit that something is wrong somewhere, that the state, whose proud name prefixes these titles, is in error somewhere. The first-named institution and the one which offers to give deeper argument for the right of man to take human life that is hopelessly away from the human form.

"As fast as the state of Minnesota builds additions to the many buildings which form the home for defectives the house is filled, and there are more defectives in every part of the state waiting refuge. Not all of these sad creatures are in such condition that they are hopeless, perhaps. And there, as in all these classes, is the difficulty Judge Amidon and the other advocates will have the determining of just the line which separates hope from unhope. But when there are cases of creatures, barely human in form—some who are in adult years and do not lift a morsel to their mouth but must be fed day to day, and some so far from human appearance that no visitor is ever allowed to see them—it would seem not so difficult to begin the final act, even though no one ever can deny that it is difficult to know where to end.

"The difficulty here as in all abnormal development of life is that the State begins too late. One young mother went down to Faribault, a short time ago, to see her oldest child, taking with her another child who was to remain. And she remarked without a shadow of shame or understanding that the baby would soon come. This mother was herself an incurable but not dangerous. Yet the State permitted her to go on producing defective children for whom she could not care, for whom the State, through its carelessness, must pay. It is now taking care of three children because it has not taken care of one mother."

Comment on the foregoing statement of the facts as they may be seen in all our institutions for the defectives are unnecessary. If we cannot educate our youth up to a realization of the responsibility of parentage the State must take drastic measures to prevent the birth of all this defective humanity.

Sterilization by vasectomy of defectives, and artificial abortion at an early stage of the defective embryo are the two main medical measures—the only measures that promise a certain and radical relief. The medical profession should be given full power to employ these measures for the benefit of the individual and society.

Summary

1. The abortion-question should be studied in the light of modern science.
2. The abortion-laws are not in accordance with public sentiment.

3. It is probable that our abortion-laws favor the propagation of defectives.

4. The rights of the woman are superior to the rights of the fetus.

5. Rape-pregnancies should have the legal right of abortion.

6. The postmortem salvation of Gretchen does not satisfy the moral sense of the public.

7. The right of the fetus is not only to life, but to normal healthy life.

8. The duty of the State to the future generation begins before it is begotten.

9. The medical profession should be empowered by law to apply all available remedial measures for the improvement of the human race.

The Abortion Problem: Another View

By J. AUGUSTIN FLYNN, M. D. Washington, D. C.

EDITORIAL NOTE.—Dr. Flynn dissents both from the position held by Dr. Johnson (as presented in our January issue and the article which immediately precedes this one) and that held by the editor. He defends the extreme position, that it is never justifiable to sacrifice the unborn child—not even to save the life of the child's mother. We are glad to present his view of the problem, side by side with the argument of Dr. Johnson, that our readers may have an opportunity to see its different aspects and formulate their own opinions.

I WAS somewhat disappointed after reading the editorial criticism of Dr. Johnson's letter in the January number of THE AMERICAN JOURNAL OF CLINICAL MEDICINE; for, after finishing the article and comparing both attitudes toward the question discussed, I found that, apart from an apparent dissent in minor points, you agreed substantially with a position which I think is far from being a strong one.

In this question of "child killing" which has been treated so cold-bloodedly of late, it seems to me that a statement of principle upon which the physician acts would be more to the point than fifty citations of instances wherein he thinks it right to take the life of the unborn child. In your reply to Dr. Johnson you admit that when it is necessary to save the mother's life, to bring the course of pregnancy to an end by sacrificing the life of the unborn babe has moral justification. You agree also in regard to the young woman raped by a negro, that abortion is justifiable, even when condemned by state law as criminal. Certainly this is a dangerous principle for any portion of our medical fraternity to accept. Are we not supposed to give the great body of legislators credit for having as much foresight and intelligence, when it comes to a matter of public weal, as we claim for ourselves?

Would it not, I ask, be far better for us, instead of violating the law, to try to have such laws amended so as to legalize our actions? I speak here especially of the former case mentioned in your article. But to pass over this phase of the question, I should like to know upon what moral principle you justify the killing of an unborn child. I do not ask for any social principle, arbitrarily set, but for a *moral* principle, since you speak in your article of moral justification.

Let Us Act Upon Principle

We must act on principle, not sentiment, and it is a big mistake to think we are playing the role of the Good Samaritan when we act out of pure sentiment. The Good Samaritan, who certainly is a worthy model for our profession to imitate, was not actuated by sentiment when he bound up the wounds of the unfortunate traveler and took care of him. He was actuated by the moral precept, "Love thy neighbor," and I am sure if he were called into consultation with Dr. Johnson he would still be guided not

by sentiment but by the moral precept of the same universal Lawgiver, "Thou shalt not kill." I cannot imagine the Good Samaritan taking part in a sacrifice in which he is the self-ordained priest and the immolated victim an innocent and helpless child. If there must be Moloch worship, then leave it to the pagans; for those who are basking in the light of God's revealed truth a return to this primitive practice of human sacrifice is too utterly horrible to think of.

The Author's Rules in These Cases

As regards my own action in cases of this kind, I have long ago found a rule of conduct which to my mind has "moral justification." In casting about for some principles upon which I could act in these cases the following appealed to me as final: First, "Thou shalt not kill." Second, "The end never justifies the means," viz., one cannot do evil that good may come from it. From these I concluded that intrauterine life must be respected as much as the extrauterine, under all conditions.

Now, when you "sacrifice" the life of the unborn babe, you kill outright. This you must admit, as you do in your article. Who, I am inclined to ask, has constituted you or me or any other member of the medical fraternity the arbiter of life? I am still of the opinion, taught me many years ago, that the absolute and exclusive right to life belongs to the author of life, God. Certainly the physician has no right over human life.

But has the mother?

I do not see how we can admit that the woman who has freely consented to bring a child into this world can, when she deems fit, turn upon the fruit of her womb and cooly order its sacrifice, even when the child may endanger her life in coming into this world. Why has not the child the same right to life as the mother? Suppose the inability of the mother to deliver her child is the result of her own folly; suppose she did not take proper care of herself or sacrificed her health and the power of bearing children to keep up the social pace? Is the innocent babe alone to suffer for this? If you may kill the unborn babe when it endangers the mother's life, then why not the born child, or man or woman, when it endangers the life of many, as by contagious disease, for instance.

A Supposititious Case

Or let us suppose the following case: Right after the birth of a child an angry husband says to the child's mother, "Kill this fruit of your unfaithfulness or I will kill you both." Should the woman now argue, "Better one dead than two," and kill the child? Would you say, she was morally justified?

The mere fact that inexorable nature in the one case is the aggressor, and an angry husband in the other, does not at all alter the case. It is just as criminal to kill in the one instance as in the other. I do not think you will go so far as to say that the killing of the child, which must in either case die, is a lawful deed the day before birth to save the mother, and a horrible crime the day after birth, when done for the same cause. To my mind the taking of the child's life in either case is equal to the direct taking of an innocent human life, and is consequently a transgression of the divine command, "Thou shalt not kill."

Of course I am now addressing myself to those who profess faith in a universal Lawgiver and believe that His precepts are just as valid today as they were when first uttered. For those who have no such belief but base their actions upon some arbitrarily fixed social standing I have no argument, for I know of no purely social precept that is not relative and determined by man's caprice.

As regards the second principle, I think it must be admitted by everyone who would escape universal anarchy both in the social and the moral order. Abortion is an operation whereby the child is deprived of life to which it has a sacred and inviolable right. As such it is an evil and never justifiable as a means, no matter how great or good the end may be.

I have endeavored in these few lines to give a statement of the principles by which I am guided in my life as a physician. We must have some moral ground for our actions. I do not see that you have given us any moral principles by which the physician may be guided. You say it is morally justifiable to sacrifice the life of the unborn babe when the mother's life is in danger, but you fail to state the principle of morals by which such an act is justifiable. Once you admit the principle, and I do not see how you can escape admitting that the right to life is sacred, that no one has the right to sacrifice an innocent human life. I do not see how you can justify abortion *in any case*. Deny these principles that I have set forth, allow abortion in some cases, and I fail to see where you can draw the line with anything like logical consistency.

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[In the editorial department we have taken up some of the questions raised by Dr. Johnson and Dr. Flynn, so we shall not undertake to discuss them at length here. We do wish, however, to say a few words in comment:

Dr. Flynn writes: "You agree also in regard to the young woman raped by a negro that abortion is justifiable even when condemned by state law as criminal." We are not conscious that we admitted anything of the kind, except in the way of argument. Our position was this: Provided we admit that in case of rape by a negro the production of abortion is justifiable, how much of an argument, *even then*, has Dr. Johnson? Practically none, since the number of cases of this kind is so small as to be negligible. This being the case, Dr. Johnson's argument falls absolutely to the ground.

It is probable, however, that, as Dr. Johnson says, no jury could be found to convict a physician producing an abortion under these circumstances. The condition is one so unusual that I presume it was not even contemplated by most of our lawmakers in making provisions for legally cutting short the course of pregnancy. Possibly the laws in some states do provide for such a contingency. I do not know. Personally I believe that such exception should be made, just as I believe that no physician should disregard the law, unless there is very plainly a higher moral obligation. In case of doubt he is never justified in acting alone. Let him call in other medical men, and be guided as far as possible by the deliberate decision of this composite mind.

But the bulk of Dr. Flynn's paper is in defense of the proposition that the physician should *never*, under any circumstances, not even to save the woman's life, produce an abortion. His argument is based upon the moral principle, "Thou shalt not kill."

This principle is to be obeyed to the very letter, upon the hypothesis that all life comes from God, and so necessarily is sacred. He has no right to select the mother for life, if by so doing he must condemn the mother to death. Both would better die than to destroy one to save the other. There are cases where both would inevitably die without interference; but even here, if we accept the inexorable logic of Doctor Flynn's position, he must keep hands off. Let both die! But is the Doctor's "moral principle" one from which there is no deviation? It seems not so to us. We all recognize, or should, that our highest sense of duty to God is shown in service to man. The social welfare is paramount. And when the social welfare justifies, society as a whole has never hesitated, and does not today, to destroy the life of an individual. That is the justification for capital punishment. Nor does the Christian Church condemn war, or forced conscription, in which lives are inevitably surrendered for the supposed good of the State. The precept, "Thou shalt not kill," is therefore one which permits of exceptions, even in the minds of those who adhere religiously to the precepts of Holy Writ.

Is it not equally important to preserve the purity of our race at the very fountainhead? Is it wrong to destroy the seed of to rapist, for instance, to prevent the production of more vice, more criminals, yet right that we should hang the poor passion-dominated degenerate himself? The Doc-

tor's argument brands the preservative measure as a sin and justifies the legal murder. This does not seem to me good logic.

Dr. Flynn also forgets that the woman who may require the termination of pregnancy to save her life has not as a rule "freely consented to bring a child into the world," as he states. Not once in ten thousand times would a woman consent to become pregnant if she understood that this meant her own death. The condition is one that in many cases is forced upon her, not only not with her consent, but against her will. In many, very many cases, she is the unwilling slave of the most brutal passions—within the marriage bond, as well as outside of it.

Yet, according to Dr. Flynn's logic, even the raped (legally or illegally) woman, with a contracted pelvis, suffering from tuberculosis, advanced disease of the heart, or any other condition in which the natural course of pregnancy would mean her speedy death must submit and die—and the doctor must turn his back and bid her cease her pleas for help. Following the same logic, one who obeys to the letter the precept, "Thou shalt not kill," would submit his body to the assaults of the midnight assassin, raising no hand in self-defense. Of course, his premises being accepted, there is absolutely no escape from Dr. Flynn's logical conclusion, but this is exactly what is not admitted by vast numbers of conscientious men. In my opinion there are only two conditions that justify the production of abortion, the first being to save the mother's life, as this is at its maximum value to society, while that of the fetus is only in potentiality; the second condition is the fostering of the highest good of society, which may justify cutting short the propagation of the criminal and defective, though this presents difficulties. The production of abortion to save from illegitimacy seems to me unjustifiable.—ED.]

Specifics for Conditions

A Modern Conception of "Specific Medication"

By WILLIAM F. WAUGH, M. D., Chicago, Illinois
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THE ancient idea of specifics contemplated a remedy for each disease in the nosologic list. After centuries of search our acquisitions along this line are not very numerous. Quinine for malaria, mercury for syphilis, the sulphides for gonorrhea, pilocarpine for sthenic erysipelas and antitoxin for diphtheria comprise the list of those which may be said to be fairly established; and even of these five the entire profession is by no means ready to accept all. Beyond this and still in the experimental line we have the various serums, and these represent the modern development of this theory. While several of these are quite promising, none can as yet be said to have won such a place in the confidence of the profession as the five mentioned.

In the meantime, however, another line of specifics has been developed; that of specifics aimed at the various physiologic functions. Looking upon disease as presenting itself in the form of a derangement of one or more of the vital functions, we search in our materia medica for agencies by which we can stimulate or sedate whichever of these functions we see to require such stimulation or sedation. Such remedies may be called modifiers of physiologic functions.

The more profoundly we study the physiologic operations of the body, the earlier we are able to detect aberrations from their normal operation. We know that such functional aberrations precede the development of structural disease, and we have a well-grounded belief that by promptly in-

tervening during this functional stage, and restoring the ailing functions to healthy, normal operation, we are able in many instances to check the further progress of the disease.

It is evident that to accomplish this purpose we must have in our hands perfectly specialized weapons; those which modify the physiologic functions exactly and quickly; those which can be relied upon to do exactly what we expect of them and not something else.

The Ideal Remedy a Depressant or Stimulant of Function

The ideal remedy is one which depresses or elevates a single physiologic function without affecting others, and the more nearly this idea is approached, the more certainly we can handle such remedies. It is in the direction of this ideal that those of us who are developing the therapeutics of the pure, single active principles are progressing. Naturally, but little has been done along this line, because the workers are so few. Nevertheless, the following summary will show that some progress has been made.

Salicylic acid, a specific gastroduodenal antiferment in rheumatism.

Aconitine to stimulate cardiac inhibition and relax vascular tension.

Aesculin to dissipate hemorrhoidal congestion.

Agaricin to check the sweating from relaxation.

Aloin to stimulate rectal peristalsis.

Anemonin for uterine congestion with checked menstruation.

Antimony arsenate to hasten resolution of pulmonary exudate.

Apocynin to contract arterioles and capillaries.

Apomorphine to quickly stimulate secretion from the respiratory mucosa.

Arbutin to soothe mucous irritation in the genitourinary system, and check the loss of albumin, as well as to encourage the restorative processes in this tract.

Arsenic bromide to check the disposition to acne when other bromides are given.

Arsenic iodide, the most powerful and quickly-acting of the iodine and arsenic preparations.

Arsenic sulphide for constitutional infection with the gonococci.

Aspidospermine to allay dyspnea.

Atropine to relax spasm and stimulate the capillary vasodilators.

Berberine to restore the contractility of relaxed connective tissue.

Bilein to initiate biliary digestion.

Bolding to increase the formation of urea.

Brucine to stimulate like strychnine, and at the same time to allay gastric irritation by its local anesthetic power.

Cactin to regulate functional disorders of the heart.

Caffeine to sustain a weak heart and quickly eliminate the fatigue toxins.

Calx iodata to abort forming respiratory catarrhs.

Calx sulphurata to abort or cure bacterial infections.

Calcium sulphocarbolate to disinfect the alimentary canal in cachexias, tuberculous, hemorrhagic, denutritive, and all cases where lime is deficient.

Camphor monobromide for nervous erethism.

Cantharidin for genitourinary atony.

Capsicin to arouse sensibility in the digestive system.

Caulophyllin to allay the pains preceding true labor-pains.

Cerium oxalate to allay gastric irritability.

Cicutine to allay spinal irritability.

Cocaine to allay local irritation.

Codeine to lessen irritative cough and allay gastrointestinal spasm.

Colchicine to eliminate the toxins of gout and rheumatism.

Condurangin for its local effect in cancer.

Copper arsenite as a duodenal antiseptic.

Cornin as a tonic to erectile tissue.

Cotoin for the diarrhea of tubercular enteritis.

Croton chloral for headache with tenderness of the scalp.

Cypripedin for nervous unrest.

Delphinine for vesical insensibility, with fever.

Digitalin as a heart tonic.

Digitonin to relax vascular tension.

Dioscorein for the minor pains of gallstone colic.

Emetine to stimulate a healthy secretion of the digestive fluids.

Ergotin to stimulate the vasoconstrictors.

Gelseminine to allay irritability of the upper spine, the medulla, and the cerebellum.

Glonoin to relax spasm.

Helonin to prevent spasmodic dysmenorrhea.

Hydrastine to contract arterioles and capillaries.

Hydrastinine to contract the uterine vessels.

Hyoscine to relax spasm and induce sleep.

Hyoscyamine to relax vasomotor spasm.

Iodoform as a local anesthetic giving the constitutional effects of iodine.

Leptandrin to increase the flow of bile without catharsis.

Lobelin to stimulate the respiratory and digestive secretions, and relax spasm.

Lycopin to check hemoptysis.

Macrotin to allay the nervous irritability in the later stages of chorea and similar affections.

Mercury as an antisyphilitic and to stimulate destructive metamorphosis.

Nuclein to stimulate leukocytosis.

Papayotin to initiate digestion.

Physostigmine to stimulate intestinal peristalsis.

Phytolaccin to dissipate glandular congestion.

Pilocarpine to induce perspiration and salivation and stimulate leukocytosis.

Podophyllotoxin to stimulate peristalsis in the large bowel.

Quassin to increase appetite and restore gastric tonicity.

Rhus tox. to restore tone to the vesical sphincter.

Salicin to sedate excessive sexual irritability.
Sanguinarine to stimulate the respiratory tissues.
Senecin to stimulate menstruation.
Sodium sulphocarbolate as a gastrointestinal antiseptic in cases of acidity or of irritable stomach.
Solanine to lessen reflex irritability.
Sparteine a cardiac tonic with little or no effect on vascular tension.
Stillingin to stimulate lymphatic elimination.
Strophanthin a cardiac tonic with little effect in increasing vascular tension.
Strychnine a general tonic to all the functions of the body.
Veratrine a stimulant of all the eliminative apparatus, and relaxer of vascular tension.
Viburnin to relax uterine cramps.
Zinc cyanide to soothe irritable cough.
Zinc phosphide to improve nutrition of the nerve-roots.
Zinc sulphocarbolate an intestinal antiseptic.

The above list will show that something of a beginning has been made, although there are very many remedial agents still required to fill the needs displayed by a study of normal and pathologic physiology.

More Specifics Will Be Found

Among the numerous active principles which have been discovered but never as yet utilized in medicine there are undoubtedly many weapons which will prove of inestimable value when they have been studied. As physicians give more study to the patient at the bedside and learn to detect variations from the normal workings of the physiologic functions, the demand for agents of this sort will undoubtedly increase. In time we may hope to have, in our armory of specifics, stimulants and depressants for every vital function whose operation we can recognize in our patients.

Taking these as the basal action of the remedies named, we are ready to apply them intelligently whenever the corresponding disorder in physiologic function is manifested. Very frequently indeed we detect the combination of vasomotor spasm in part of the circulatory area, and vasomotor paresis in another part. Hence, in the treatment of all inflammatory and febrile affections, we find indications for the use of aconitine and digitalin, reinforcing them with strychnine when the asthenic condition is manifest or veratrine when sthenia is most marked. So also in the treatment of numberless affections we find it of advantage to associate the powerful tonic vital incitor, strychnine arsenate, with the antispasmodic hyoscyamine.

Study the Book of Nature

The study of disorders of functions and matching these with appropriate remedies is a pursuit of absorbing interest. The physician who studies disease from the book of nature will find it infinitely more attractive than any textbook, and he will find many things that no book will teach him. He will not be long in realizing the great truth that the earlier he intervenes in the treatment of any disease, the more effective will be his therapeutics, and that if he can catch any malady in the formative stage, before material lesions have occurred, he will in most instances be able to break up and abort the attack.

But this is incomprehensible and hence unbelievable to the physician whose knowledge of disease is gathered only from printed books, for he requires the orderly development of disease through its various stages to enable him to complete his diagnosis, and until the diagnosis is completed he is unable to intervene intelligently; hence, by the time he has made up his mind as to the name of the disease the opportunity for effective intervention has passed. It certainly seems a matter too evident to be disputed that the more skilful is the physician in studying disease as presented by the patient, the earlier he will be able to make his diagnosis, as he becomes familiar with the aspect of disease in its earlier stages and experience teaches him what he is to expect when any symptom complex makes its appearance.

Not Difficult of Application

I regret to say that in conversation with many physicians I find that to them this matter looks abstruse and too difficult for the average man to apply. One man said to me, "It looks easy to you and certainly is, but I cannot get the hang of it." This is to me incomprehensible, for since the adoption of this method the practice of medicine is so easy that for the first time in

my professional life I am conscious of the burden laid upon me by the old, unnatural method. It is so perfectly simple and easy to study a patient, note the most prominent deviation from physiologic functions, such as the presence of fever, pain, spasm, debility, autotoxemia, etc., and at once to apply the remedy for the conditions presented without waiting until the development of disease enables me to classify it as I would a museum specimen. I have long since made the discovery that my abilities as a physician are by no means above the average; hence I urge the importance of these matters, not as suitable for a few highly proficient specialists, but as easily within the reach of every physician qualified to practise medicine.

Therapeutic Nihilism*

Some of the Conditions that Favor It, and How to Prevent It

By W. T CRAWFORD, M. D., Fowler, California

MY personal observation after twenty years in the practice of medicine and as many more in the pharmaceutical line is the only apology I have to offer for this disconnected medley.

The nihilist is not of recent origin or few in number, as you have seen or heard of him all down the progress of medicine and its allied branches. He has been an obstinate, indomitable character who has fought bare-handed almost all scientific research in medicine and in surgery. He is the unsophisticated anomaly that has done more to place internal medicine in disrepute than all other agencies combined.

It is said "that much learning made Paul mad," also "that a little learning is a dangerous thing," which may make some men greater fools than they are naturally.

The most insufferable nihilist is the egotistical bigot whose head swelled in adolescence and has remained *in statu quo* ever since. You frequently meet this man in consultation, and his brilliant knowledge so outstrips yours that you feel like a perforated three-cent piece. You think, but you cannot say, that you have met a conceited and confused mass of atrophied gray matter.

Therapeutic Instruction Is Defective

It is beyond controversy that the lack of therapeutic knowledge is one of the prime factors in medical nihilism. Also the poverty of therapeutic instruction in our schools, for the last half century, has been the potent cause of all the "pathies," from homeopathy to osteopathy. Glance through any of our recognized standard textbooks on treatment, and also on therapeutics, and see the small advance that has been made in drug-therapy. Take up almost any author and review his different editions during several years and observe the old rehashes and reiterations, and this in the face of notable progress in other branches of the healing art. Take a week under your old-time teacher of therapeutics and you will likely hear the same old cut-and-dried lectures that you heard when you were a student.

Little wonder indeed that we have such a chaotic medley of therapeutics in which we are asked to place reliance in the relief of the sick.

Another cause is our routine practice and the holding to the one-man idea as an authority. Who is an authority? I confess I do not know—doubt if anyone does. Th fact is proven that the men who write books are not men of actual bedside experience, and are many times mere compilers. Most of these men are miserable failures in the practice, then why should we take their opinions as final. It is better not to absorb the one-man idea as iron-clad and go through life with it. The man who does is

*Read before the Fresno Medical Society, Dec. 7, 1909.

very badly handicapped and likely to be very narrow-minded and his professional capacity is limited.

In the three older schools of medicine we have many drugs of proven therapeutic action, but certain prejudicial dogmas keep many men from using them. This is a great mistake, as our calling is to relieve the sick; hence we should eliminate this bigotry within us.

The Surgeon As a Drug-Nihilist

The ready-made surgeon turned loose from our colleges with every passing year is a great factor in the nihilistic field. He has never learned therapeutics and but very little surgery. His principal fort is filling untimely graves. The specialist who jumps into his work immediately after graduation is also thoroughly nihilistic. Both these classes of men are better acquainted with the detail-man and his wares than with dependable therapeutics.

These men with their nihilistic practice have driven many people into the arms of all the "isms" and "pathies" from homeopathy down to mere medicine. These pathies and isms are legion, as you know, and are rapidly increasing in the fertile brains of perverted men and women. Do not understand me as detracting from the men in our profession who have made diagnosis absolute from bacterial demonstration and pathological findings, and made treatment of disease from serums, vaccines and antitoxins possible. Yet we have men in our ranks who make a pretense at this work that is less credit to them than outright quackery would be, and is also criminal. Such men should be eliminated from our midst.

What has been said of the works on therapeutics applies also to the textbooks on practice. See, for instance, how the old formulas are copied from one edition to the other. Surely there is something vitally wrong with our old methods of treating the sick, they have not kept abreast with our increased knowledge of a better diagnosis. And why? There is but one reason, namely, the teacher has through all the passing years of his life religiously adhered to the old moth-eaten works of his venerated "authority."

"Do Not Use Aconitine" (!)

I shall give but one illustration. One in authority says, "Do not use aconitine, as it is a violent poison." Now, this sounds funny to me, for I have used it daily for the past fifteen years. Besides, I have prescribed many other drugs that are potent poisons. So, is this a good objection? Fire will burn you if you get too close to it, but it will also warm you if you use it aright.

The regular surgeon has much to his credit as a nihilist, he belittles drug-therapy, and for a very good reason—he possibly never learned it; if he did, his knowledge was very limited, while if he is a busy man he has no time and often not the inclination to keep abreast with the research work in medicine.

In the city and the larger towns is where the nihilist succeeds the best, and especially so in the hospitals. He is not much of a success in the country, as the country doctor must be a man of large resources, or he would soon lose his job. What makes men nihilists is the employment of otherwise valuable drugs in an irrational manner?

Naturally the man who practises in this manner sooner or later comes to the conclusion that there is nothing in medicine. Such a man, especially at the beginning of his career, is always looking for a sure cure for a named disease without the exercise of his gray-matter. You will find him with some hospital or other formulary on his desk or in his pocket, which will fill the deficiency of reserve brains. With the formulary and a guess-name for the condition, he goes merrily along, the patient doing the best he can with the added incumbrance, and dies or gets well according to the amount of his vital force. This man is a menace to the nation and a disgrace to the medical profession. The full-fledged nihilist looks with pity on the country doctor. But, gentlemen, if I were sick and wanted a doctor, I should prefer a good country doctor, as he would get busy and try to relieve me.

The way to overcome this nihilistic therapy is to eliminate the great number of medical schools we have, and put those that are left under government jurisdiction. In doing this you will get rid of the haphazard teaching of therapeutics. Adopt some text-books on the subject that are final, not as we now have it, with the varied works and socalled dispensatories. Eliminate all the obsolete drugs and include none but those of known usefulness. Get men as teachers with actual bedside experience as well as technical and theoretical knowledge of drug-medication. Eliminate polypharmacy and all cure-alls. Make the term at college longer and give more time to the teaching of actual therapeutics. This will eliminate the get-the-dollar college and also the one that lacks the clinical facilities it should have.

When you do this you will find that we possess remedies that are potent and efficient in their action. Take the alkaloids of drugs, many powders and some fluid preparations that are standardized. How do you know they are? There are many manufacturing pharmacists whose preparations are questionable. We also know that many drugs in daily use are absolutely inert. This will be clear to you if you will forget your "isms" and investigate the newer fields of drug-therapy, using the alkaloids and foregoing the shotgun mixtures of the murky past.

In the field of vaccines, antitoxins and serums much has been accomplished in rational medicine; the same in the use of drugs. Have you kept abreast of the times or are you a nihilist? If not satisfied why not use sane therapy in your work in place of the hit-or-miss principle.

Shooting in the Dark

A young doctor once said, "Prescribing is like shooting in the dark, sometimes you hit, more often miss." I am fully cognizant of this fact, having been in the drug business for many years.

Stop knocking! Do not think you are the only It; broaden out, and acknowledge that great men have existed and also will be after you have been forgotten. The most potent cause of the many cults in medicine and the credulity of the laity is our lack of knowledge of therapy and the belittling of our brother in the profession.

Cut it out. I have been in the work long enough to know the nihilist can do a greater good for the health of the community if he will study therapeutic action in health and disease and give smaller and more frequent doses, and use definite drug-principles. By so doing he will get results such as he never got before. He must apply single drugs as to condition and symptoms, and not label every ail with a name and then use some old ready-made prescription simply because the name suggests the treatment. When he has done this he will have made a great stride toward a saner basis of treatment of the sick.

I have met and been a student of the best men we have in this country, in the varied branches of medicine and surgery. I find these men to be very ordinary and painstaking men, who are not so cocksure of their diagnosis and therapy as many whom you meet in your professional work. I have met men fresh from college who would put to shame these men in the matter of lightning diagnosis.

It is beyond peradventure that we need to be very careful in our diagnosis and not be satisfied with snap-judgment, but to study minutely our cases before coming to a conclusion.

The idea of this paper is to get into serious consideration those of our profession who may be simply running a bluff because their patients may not be able to comprehend it. Also to further the great work of alleviating the sick and distressed.

In conclusion I hope we do not have any nihilists in our society.

Proctitis and Periproctitis: A Study of Their Relations to Common Rectal Diseases

With the Description of a New and Successful Method of Treatment

By J. D. ALBRIGHT, M. D., Philadelphia, Pennsylvania

II.

I HAVE already hinted at what I shall now explain in regard to the formation of hemorrhoids. The condition implied by this term has for ages been considered a disease, but under the strict interpretation of this term, it must now be viewed as a symptom, even though we admit that all pathologic manifestations are disease.

Causes of Hemorrhoids

Hemorrhoids occur as a result of proctitis, yet I do not deny that there may be other direct or intermediate causes. Among the former one may mention traumatic influences, such as attend extreme exertion, as perhaps the principal of those which may be termed external causes. Of the intermediate, constipation doubtless stands first. Even this is in effect traumatic, and when all other causes are analyzed, there is not a single one that can not be traced back to causes from without. Yet, the first result of irritating drugs (purgatives), constipation, pressure due to pregnancy, the use of syringe nozzles or irritating detergents, cold or wet seats, is not hemorrhoids, but inflammation, and call it what we will, congestion and inflammation is the ultimate conclusion.

The sacs and pouches within and under the mucous membrane of the rectum, or, more properly, within or under the mucocutaneous integument of the anal canal, make hemorrhoids possible, and before the latter ever form the locality must have been prepared for them. These sacs are, as has already been stated, formed by the bulging of the lining membrane, or of one or more layers of it, because of the pressure behind it; the pressure caused by the imprisoned exudate which always flows from the seat of any inflammation.

The first office of these sacs is to act as reservoirs for the exudate, which, because of its irritating character, produces congestion and inflammation all along its course, stimulating cellular activity, cell proliferation and tissue formation. Nature, always liberal, provides for the extra tissue an extra blood supply, which in turn contributes nutrition to the new structure, and in due course of time it becomes an organized body known as the internal hemorrhoid.

The Arterial and Venous Varieties

When the seromucus burrows between the corium and epithelium of mucous membrane until the sphincters are reached, forming tiny sacs so thin and delicate that the slightest touch will cause bleeding, the socalled capillary pile is formed, although they can by no stretch of the imagination be called tumors, appearing merely as small, slightly elevated, bright-red spots. As their covering becomes thickened by the proliferation of epithelium and connective tissue, a tumor gradually begins to form in the manner just described, becoming either an arterial or venous hemorrhoid, according to the nature of its principal vessel. As the exudate in these cases finds but little difficulty in forming a pouch, it does not descend much below the anorectal line, where the first obstruction is encountered. Because of their higher location, these sacs usually develop into *arterial* hemorrhoids, explaining in a manner quite satisfactorily the reason for the general rule, high location, arterial; lower location, venous.

When the mucus burrows deeper, under the integument of the rectum, the slight ob-

struction offered by the weak internal sphincter is not sufficient to cause a change in its course, but it travels downward until the powerful external muscle is reached, at the upper border of which the bulging takes place. Here it rests in the midst of a dense network of capillaries, principally venous, and the pile which is later on developed here is generally known as of the *venous* variety. Arterial hemorrhoids always contain veins, and, likewise all venous hemorrhoids contain small arteries.

Anatomical Structure of Hemorrhoids

Hemorrhoids have always been looked upon as dilated blood-vessels. This is a mistake, in part at least, for we now know that a true hemorrhoid is never primarily a varicosed vein, for whatever varicosity may be observed is a later development due to compression; but this condition is seldom met except in cases where mixed hemorrhoids, or venous hemorrhoids situated low in the anal canal, are present.

If a well-developed pile-tumor is removed by the knife or cautery and carefully examined, it is surprising to note the number of vessels it contains. I have counted as high as twenty-two with the naked eye, and under a magnifying glass I have seen so many that it was impossible to count them, and they were so fine and delicate that it was impossible to separate them, yet they were perfect in form, showing wall and tubular structure. Between them will be found a dense connective-tissue structure. The external appearance of a protruded hemorrhoid, when circulation is embarrassed, is very deceptive, and we will all admit that it looks like a varicosity. Note that I am dealing with internal hemorrhoids, not the varicose tumors found external to the grasp of the closed sphincter-muscle.

When the exudate finds this internal course, it is evident that it can not at the same time pass down outside of the sphincter, and this explains why it is the rule to find either hemorrhoids or pruritus absent in any given case. Jamison has called attention to this, and Matthews says that the majority of patients operated on by him for hemorrhoids did not have pruritus. Not a single writer on diseases of the rectum, so far as my careful search of all present-day literature has revealed, has ever offered an explanation of this patent fact, and I feel justified in asserting that until this theory of the development of piles and pruritus was worked out it never has been explained.

External venous tumors are developed in much the same manner. The exudate being profuse, it continues downward until the external parts are reached, forming the well-known anal folds. Finally a combination of circumstances supplies the necessary traumatism and clots are formed, due to pressure and bursting of the veins.

Their development does not essentially differ from that of the internal variety, as already described. I will, however, add that these cutaneous folds do frequently itch, but this is because the condition is essentially the same as in pruritus, when the exudate has burrowed around the anal region. The local effect is precisely similar, and the cause is similar, even though it reaches this locality by a different route.

Fissure of the Anus

This condition, in which the anal integument becomes fissured, is said to be the most painful affection of this region. Without a personal experience to support the statement, I am willing to accept the declarations of those who have supplied the information. It is described as a solution of the continuity of the anal integument, appearing as a linear or elliptical ulcer, varying from one-fourth to one inch in length, frequently involving the underlying structures.

The immediate cause of fissure is usually the passage of a hard fecal mass, but it is evident that if this were alone responsible for the tear, a large portion of our population would be bewailing their fate. The tensile strength of the normal anal lining is such that it will bear a two-inch dilatation without rupturing, and this being the case, it follows that when it is torn during defacation, it must lack its normal elasticity and resisting qualities.

Long-continued inflammation about the anal canal and the invasion of the tissues by the acrid exudate which it causes naturally impair the vitality of the involved structures. Between the redundant folds of anal integument deep crevices form, the floors of which in time become soggy because of the accumulated moisture and the exclusion of air. The combined effect of these causes weakens resistance and so devitalizes the integument in the crevices that a moderately firm stool will supply the necessary strain to cause a slight tear from which the more extensive fissure soon develops. The subsequent ulceration depends upon the degree of tissue destruction which has already taken place beneath, as well as upon the number and extent of the submucous fistulas which are liable to form.

Disposition of Fissures

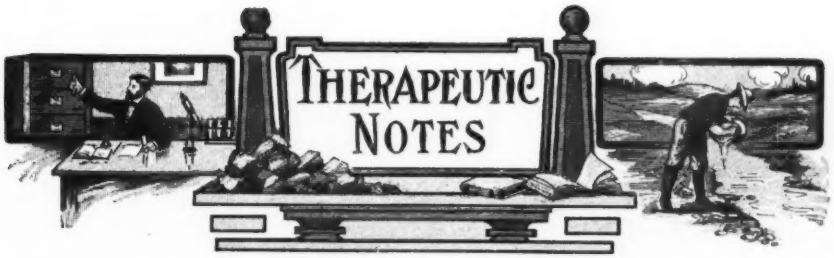
Anal fissure occurs most frequently in the posterior commissure. This has been explained by attributing it to the anatomical structure of the posterior region, the sphincter-muscle affording less support posteriorly than elsewhere, because of the separation of its fibers at this point. This they also do anteriorly, but as the distance from the posterior verge of the anus to the point of attachment of this muscle to the coccyx is greater than that from the anterior verge to the central point of the perineum, the fibers separate more widely posteriorly.

Carrying this thought a little further, we remember that in the female the fibers of the external sphincter are continuous with those of the sphincter vaginæ, causing greater separation here than in the male, and this, it is reasonable to suppose, explains why we find women more liable to anterior fissure than men. These theories are all ingenious and have some reasonable basic grounds, but our experience with the ravages of proctitis furnishes others which appear more tenable.

The postrectal space being the favorite seat of mucus reservoirs, their contents burrow through the adjacent structures, and finding a comparatively easy means of egress between the divided fibers of the sphincter, it insinuates itself between the muscle and the integument of the anal canal, and, when it can not continue its course, it lodges there and begins its devastating work. In women anterior chambers containing this exudate are more frequently found than in men, so it is natural that they should have fissure in that location more frequently than the opposite sex. Laterally, in both sexes, the perianal fascia and the more closely set sphincter act as barriers to the burrowing tendency, preventing the exudate from descending between the muscle and the anal integument.

Fissure, as has been shown, can not, therefore, be attributed solely to the softening of the crevices between the hypertrophied anal folds, for these occur laterally as often as in any other position, if not more so, and if they are punctured, one can usually pass a probe submucously upward, showing that the exudate in these cases has traveled rather superficially. The channels found anteriorly and posteriorly dip deeper as a rule, involving a larger amount of cellular and muscular tissue. It is in these cases, where the cutaneous folds are due to invasion from either the front or the back instead of from above, that itching is most liable to occur, and this condition, as before stated, is practically the same as when the channels are found entirely external to the musculature of the rectum and throughout the tissues of this locality.

This subject is such a large one that one can not hope to convey more than an outline of it in a paper of this length, and if I have been able to stimulate interest in it sufficienty to create a desire for more knowledge along this line, I feel that the aggregate result of this effort will be incalculable. As one who has given special attention to rectal work for over twelve years, I am naturally more enthusiastic than the physician in general practice could be expected to be; yet, I am free to say that if the profession as a whole could be made to realize the part that rectal irritation plays in the progress of all diseases tending toward chronicity, a much higher degree of efficiency in their treatment would be developed.



CROUP AND CALCIUM SULPHIDE

Valledor saw a girl five years of age in an attack of croup. She was given calcium sulphide, a granule every quarter hour, one of quinine hydroferrocyanide every half hour, one each of hyoscyamine and strychnine sulphate every hour. Citric-acid solution was applied to the throat with a swab. The next night the child was up and calling for food. In a smilar case, a boy of nine years, given up as hopeless, the same treatment put an end to the danger in twenty-four hours.

NERVOUS CHILDREN

Dr. I. A. Abt, Chicago, argues, in *The Lancet-Clinic* (March 13, 1909), that children should become accustomed to regularity of habit. A strictly well-regulated life without commotion, disturbance or surprises; a program indicating the time for sleep, for food and for play are prophylactic measures against nervousness. This plan should be begun shortly after birth; the time for sleeping, for waking and for food, as everyone knows, becomes, so to speak, automatic if the baby has been properly trained.

IMPURE DRUGS

The strychnine of commerce often contains the sulphates of calcium and magnesium, starch, etc. It is the same with veratrine. To prepare aconitine, cultivated plants are employed instead of the wild. Cicutine is often an amorphous extract from plants, more or less worthless, of several species. Hence the uncertainty of action with medicaments termed heroic. Granules of digitalin are made without any digitalin, and different products are known as "digitalin" French, German and English. In a word, there is not in commerce anything more requiring caution than drugs.

UNRELIABLE PREPARATIONS OF APOMORPHINE ON THE MARKET

Dr. Erich Harnack and Dr. Hildebrandt call attention (*Muench. Med. Wochenschr.*, 1910, No. 1) to the fact that many specimens of apomorphine bought in the open market are not only less effective in their emetic action than formerly, but that dangerous complications have been reported, especially of respiratory paralysis. They have found that beside the pure apomorphine, impure preparations are on the market containing trimorphine, which not only counteracts the effect of the apomorphine but is responsible for the toxic effects. It is important that physicians should be careful to obtain their apomorphine, as indeed all their drugs, from reliable and honest chemists.

INTESTINAL PERFORATION IN TYPHOID FEVER TREATED WITH NUCLEIN

Dr. A. Philibert (*Gaz. des Hop.* for Feb. 12, 1910) says that Chantemesse has formulated the following rules for the treatment of intestinal perforation in the course of typhoid fever:

In cases in which a certain diagnosis cannot be made temporize and administer sodium nucleinate, in order to produce a defensive polynucleosis. In connection with this treatment heat (60° C.) is applied to

the abdomen, at intervals, with a special apparatus. Buizard advises to place the patient in a sitting position in order to reduce the extent of absorbing peritoneal surface in contact with the intestinal contents. In definitely diagnosed cases early operation is indicated.

FOR PAINFUL HEMORROIDS

When a patient will not consent to operation for piles and the protruded mass becomes very sore and painful, a laxative should be ordered for each night, and after each bowel-movement the hemorrhoid should be washed and dried, and then smeared with a mixture of equal parts of unguentum acidi tannici and unguentum belladonnæ, or better still, with carbenzol ointment. Whenever possible the mass should be pushed within the sphincter after anointment.

NUCLEIN IN PROGRESSIVE PARALYSIS

Prof. Donath of Budapest recommends, in the *Wiener Klinische Wochenschrift* (1909, No. 38), injections of nuclein in progressive paralysis as follows:

Sodium nucleinate 2.0
Sodium chloride 2.0
Water, distilled and sterilized,
q. s. ad 100.0

This solution is to be injected in one or two doses. The injections must be repeated about eight times in intervals of from five to seven days. They cause a rise in temperature. Of 21 cases so treated, 10 were so far improved as to be able to work; in 5 there was subjective and objective improvement, viz., cessation of trembling and of nervousness, improvement of memory and speech. In several improved cases mercury had been used without success. The best results were obtained in initial cases.

CALCIUM SALTS IN MYXEDEMA

Frouin (*La Presse Méd.*, 1909, p. 553; through *Wien. Med. Woch.*, 1910, p. 361) recommends calcium salts for cachexia strumipriva, or myxedema. He has found that animals which have for some time received calcium salts do not have convulsions after operations on the thyroid glands, as do other animals. These convulsions are probably due to an insufficient elimination of carbamic acid, which is found increased in the urine of thyroidectomized animals. The free administration of calcium salts increases the elimination of the carbamic acid. The author argues that these remedies would probably be of service in cases where the thyroid-gland function is insufficient.

TREATMENT OF TUBERCULOSIS WITH HORSE-MEAT JUICE

Dr. S. Bernheim of Paris has for years insisted upon the value of meat juice in the treatment of tuberculosis, and has more particularly called attention to the superior nutritive qualities of horse meat. In *La Médecine Orientale* for Feb. 10, 1910, he publishes a careful paper on the subject, in which are given the results of his examinations concerning the food-value of horsine, or horse-meat-juice. Compared with beef, he found that 100 parts of muscle contained, respectively:

	Nitrogenous substances	Fats	Glycogen	Mineral salts, phosphates, chlorides, etc.
Beef	21	5.41	Traces	1.18
Horse	22	2.55	1 to 4.50	1.47

Bernheim's actual experience with the horse-meat juice in 223 tuberculous patients was very favorable, and he concludes that horse meat, of all meats, is the richest, the healthiest and best for the purpose of giving strength to the patient.

TREATMENT OF CHOREA

Dr. Finley Ellingwood discusses chorea in the March number of *Ellingwood's Therapeutist*. The treatment should be conducted on the most rational basis possible. Every possible cause should be removed, and all results apparent which may have been produced from those causes

should be treated promptly and energetically. Any depravity of the blood should be anticipated, and corrected if present. The blood should contain the largest possible amount of red blood-corpuscles, and their full number should be preserved by iron tonics and restoratives.

Attention to rest and to the nutrition of the patient is of importance. Mild artificial digestives, and stimulants like hydrastis, capsicum, and grain-doses of quinine should be given with the food.

Among the agents which may be selected to control the nervous tremors are macrotys, scutellaria, valerian, gelsemium and arsenic. Iron is nearly always indicated because of the tendency toward anemia, and the stomach conditions present usually demand hydrastine, strychnine and digestives, as stated.

WHEN TO TAKE MEDICINE

We are not in the habit of doing our editorial work with shears and inch-rule, but we cannot refrain from clipping the following excellent rules from *The Medical Summary* for February, 1910.

"Alkalis, iodine and the iodides are better given when the stomach is empty as they diffuse more rapidly into the blood. If given during digestion the acids and starch alter and weaken the process. When it is desired to give acids they will be found to be more readily diffused into the blood between the digestive acts. Acidity of the stomach or an excess of gastric juices are remedied by taking acid before meals. Irritating and powerful drugs should be given directly after food. Among this class we may mention the salts of arsenic, copper, zinc, and iron, except where local conditions require their administration in small doses before meals. Silver preparations should be given after the process of digestion is ended; if given during digestion chemical reactions destroy or impair their special attributes and defeat the object for which they were prescribed. Alcohol, tannin and metallic salts, especially corrosive sublimate, disturb digestion and should therefore be administered during its greatest period of inactivity. Malt extracts, codliver oil, phosphates, etc., should be given with or immediately after food so that they may enter the blood with the products of digestion."

ON THE SURGICAL SIGNIFICANCE OF PUS, BLOOD AND BACTERIA IN THE URINE

Dr. E. A. Codman (*The Boston Medical and Surgical Journal* for Aug. 5, 1909, p. 177) makes a plea for a more careful investigation of cases in which pus, blood and bacteria are present in the urine. Urine should be amber-clear; if it is not, the cause of the turbidity should be thoroughly investigated. This refers not so much to the voided urine as to that obtained by the catheter or at least by the three-glass method. If a patient shows persistent pus, blood or bacteria by the three-glass test or in the catheter specimen, it should be a rule to have a cystoscopic examination made. This nowadays is neither a difficult nor painful or expensive operation. The technic has become "as *simple, safe and sure as the running of a modern automobile*" [however safe and sure that may be. Italics are ours. —ED.]. The author reports a series of seventeen cases in which a differential diagnosis, as to whether the trouble was localized in bladder or kidneys, could only be arrived at by cystoscopy, and in which the treatment made possible through the correct diagnosis was followed by favorable results.

We cite this paper of Dr. Codman's in order to direct the attention of the readers of CLINICAL MEDICINE to this very important subject. Cloudiness of the urine is very often observed without sufficient attention being paid to the source of the symptom. This may mean tuberculosis of the kidneys, or simply a cystitis or some other pathologic condition, which may or may not require operative interference. If the latter is required, the results depend upon the proper time being chosen, and this is only possible by a careful examination of the bladder and of the catheterized or the three-glass urine, as asserted by the

author. To illustrate: Tuberculosis of the kidney may be recognized by a bacteriological examination of the urine, which will contain tubercle bacilli. It requires, however, a cystoscopic examination to determine the possible involvement of the bladder *and* to determine of which kidney is affected.

PRECISION IN THE TREATMENT OF WHOOPING-COUGH

Dr. E. F. Cushing (*Cleveland Medical Journal*, Nov., 1909) has contributed an excellent treatise on whooping-cough, the careful study of which we would suggest to our readers. Reprints can undoubtedly be had by application to Dr. Cushing. The author affirms that the diagnosis of whooping-cough should be made from the blood-picture long before the first whoop appears, and that precautions taken at that time are of far-greater value than they are later, after the disease has become manifest. While fully endorsing all that the author says concerning the diagnosis and general management of the disease, we emphatically differ with him in the drug-treatment outlined. Belladonna, antipyrin, heroin, or opium in the form of Dover's powder, are hardly, in our opinion, indicated in the adult, much less in children, so long as we possess remedies with much more precise and dependable action. Not one of the remedies suggested is curative, while some are harmful, especially in children.

It is undoubtedly of value to keep the little patients under the influence of atropine, which, however, should not be given in the form of belladonna but as atropine sulphate in dosage of from 1-3000 to 1-500 grain every three to four hours, just enough to keep the face slightly flushed.

In spite of accepted opinions we possess an actually curative treatment by which the attack cannot only be aborted but also be cut short even after the whoop has developed. For this purpose the little patient must be kept fully under the influence of calcium sulphide, so that the odor of sulphureted hydrogen is clearly noticeable. He must at the same time receive full doses of calx iodata, from 1-2 to 2 grains every three hours. It goes without saying that the process of digestion and elimination must be maintained unimpaired, which is easily secured by a simple diet and occasional doses of an effervescent saline laxative, preceded perhaps by calomel. For tonic treatment, brucine, nuclein, and quinine arsenate are useful. We do not consider it necessary to enter largely into the general measures to be observed or to insist upon the importance of isolation, full consideration being accorded in Dr. Cushing's paper to these phases of the treatment.

LECITHIN IN NARCOSIS

Dr. J. Nerking (*Muench. Med. Woch.*, July 20, 1909) has made numerous experiments on the influence of lecithin administered intravenously or subcutaneously in animals under narcosis from any of the customary anesthetics. According to the prevailing hypothesis the action of volatile anesthetics occurs in such a manner that these agents are taken hold of by the lipoids, or fatty compounds, of the brain and form with them a sort of solid solution. The author has considered that it must be possible, by the introduction of other lipoids, to separate the anesthetic from its union with the brain-lipoids and thus to suspend or circumscribe the narcotic action.

His experiments show that the injection of lecithin exerts an unmistakable influence upon the narcosis, both in its course and its after-effects. The period of narcosis is shortened, sensibility being restored earlier, and the unfavorable after-effects do not occur. The author thinks that like injections should be tried in man in order to prevent undesirable sequelæ of narcosis, or to shorten it.

GASTRIC ULCER TREATED WITH IRON-GELATIN

Bourget (*Semaine Médicale*, 1909, No. 28) through *Wien. Med. Woch.* for Jan. 29, 1910) recommends ferric-chloride-gelatin for gastric ulcer. He used to employ lavage

with a one-percent solution of ferric chloride; but since this is strongly condemned by many physicians, on account of the danger of hemorrhage, he now administers the iron-chloride-gelatin tablets. To prepare these, 100 Grams of gelatin are dissolved in 100 Grams of water containing some glycerin, then adding 50 Grams of liquor of ferric chloride. The mass becomes liquefied by heating, when the ingredients can be thoroughly mixed. After cooling tablets are cut, one centimeter square in size, of which 2 or 3 are taken daily, two or three hours after meals. In severe gastric hemorrhages the author still advocates preliminary lavage with a one-percent solution of ferric chloride.

DISINFECTION OF THE SKIN WITH TINCTURE OF IODINE

Ernst Unger of Berlin, in *Berliner Klinische Wochenschrift*, 1910, No. 2, through *Muenchener Medizinische Wochenschrift*, 1910, p. 155, considers the disinfection of the skin in preparing for operations an important advance in technic, especially for the general practician. He has used the method in a series of cases with excellent results. The operation field, shaved dry, was painted with a 10- to 12-percent tincture of iodine, the application being repeated after a few minutes.

TREATMENT OF CIRCUMSCRIBED SKIN LESIONS WITH POTASSIUM PERMANGANATE

J. Finck of Charkow (*Muench. Med. Woch.*, 1910, p. 186) has had good results in the treatment of circumscribed cutaneous lesions with an excess of potassium permanganate. His method is applicable in chancroid, fungus, granuloma, decubitus, ulcus cruris, keloid, carbuncle, lupus (if circumscribed); he has also found it of value in old fistulas. A piece of adhesive plaster is cut out in the center, a hole slightly larger than the skin lesion being made, and is placed over the latter; then another piece of adhesive plaster, prepared in like manner, on top of it, and so forth, until a sort of box results, which is filled with the powdered drug and covered with an uncut piece of adhesive plaster. In the case of ulcers, for instance lupus, the ulcer is destroyed in the course of forty-eight hours, the remaining wound is sharply cut and covered with a crust, beneath which the process of healing goes on promptly without an unsightly cicatrix resulting.

The author's investigations for the treatment of fistulas are not yet completed, but he has succeeded in causing them to heal under the same method, filling them up with the potassium permanganate.

TREATMENT OF HOOKWORM DISEASE

Dr. H. G. Perry of Greensboro, Ala., gives, in *The Gulf States Journal of Medicine and Surgery* for Feb., p. 98, his treatment of uncinariasis, as follows: No supper, a dose of saline laxative at bedtime, 10 to 40 grains of thymol at 7 and 9 a. m., another dose of the laxative at 11 a. m. Look carefully for worms, straining the stools. Often the first course does not produce the desired results. Repeat treatment a second time the first week, and then once a week till the cure is complete. On the days when thymol is not taken give some form of iron. Intercurrent diseases should have proper treatment. No class of patients experience more relief, and as a rule none are more grateful.

ON THE VALUE OF BILEIN AS A LAXATIVE

Glaessner and Singer (*Wien. Klin. Woch.*, No. 52, 1909) through *Muench. Med. Woch.*, 1910, p. 156) have investigated the nature of the familiar laxative action of bile, and have found that it depends upon the presence of bile acids. It is exerted especially upon the peristalsis in the colon, and the authors prefer the administration of the bile acids in the form of suppositories.

The disadvantage in the rectal application of these remedies lies in their somewhat irritating action. We have found that a good preparation given by mouth, such as

the bilein granules, works remarkably well and is free from the objections mentioned.

THIOSINAMIN IN TABES DORSALIS

Müller reports, in the *Medizinische Klinik*, 1909, No. 21, that he noticed that a tabetic patient who had been treated with fibrolysin for urethral stricture felt much relieved from the torturing pains in his lower extremities, whereupon he tried the remedy systematically on eleven other tabetics. In the latter cases he did not use the ready-made preparation, fibrolysin, but the following solution:

Thiosinamin	Gm. 10
Sodium salicylate	Gm. 20
Glycerin	Gm. 10
Water (sterile) q. s. ad.	Gm. 100

Of this solution Müller injected into the gluteal muscle 15 minims every other day, and in some cases even every day, 15 minims without the least pain or any side-effects resulting. The patients received, at the same time, iodine in the form of potassium iodide or sajodin in very small doses. Every one of these patients thus treated experienced considerable relief from his torturing pains. In one case the paroxysmal violent gastric pains disappeared, while in another irritation of the bladder and rectum was removed. Some laryngeal trouble in a third patient also became somewhat better. Comparatively more quickly improvement was noticed in the six bladder-cases, these being completely relieved from urine retention while urination became easy. The general condition was very markedly improved in all. This improvement may be ascribed to the relief from pain and consequently better sleep. The ataxial trembling of the lower extremities was relatively less influenced. The objective "diagnostic symptoms" remained wholly uninfluenced.

In view of all these facts, which were clearly established, it is no exaggeration to say that we have here a valuable advance in the treatment of tabes. Furthermore, it should be stated that the patients thus far treated were, with three exceptions, in very poor circumstances, so that most probably in private practice and with better nourishment, besides the various modern, well-proven physical methods (rest-cure, etc.), still better results could be achieved. At least forty injections should be given.

TREATMENT OF DELIRIUM TREMENS

Pettey proposes a new treatment. The indications as he gives them are: support the vital functions, control or arrest the delirium, and remove poisons from the blood.

For the first purpose he advises normal salt solution given by the rectum or by hypodermoclysis, and in severe cases intravenously. This is pushed until the entire circulation is filled with fluids to its utmost capacity, then this fluid is drained off by large and repeated doses of magnesium sulphate. Calomel is given in full doses at the beginning. Give sparteine, in doses of two grains every two to six hours, to supply additional support to the heart and promote the action of the kidneys. Gelseminine is administered in doses of 1-25 grain every one to two hours until its full physiologic effect is developed, unless the delirium and unrest are sooner allayed. "This drug is a reliable cerebral sedative and motor depressant and is not incompatible with any drug indicated in the hyperemic type of cases, but should not be given in the anemia cases. Strychnine, whose action is directly opposite, is given to control the delirium in the anemic cases, but is positively contraindicated in hyperemic cases. In the anemia it increases the blood supply to the brain and thus quiets delirium." Alcohol is reduced but not entirely withdrawn during the delirium.

This plan of treatment has been employed, when indicated, in 450 consecutive cases of chronic alcoholism. Some were delirious when admitted, others developed delirium after admission. In no cases did the delirium resist the treatment longer than twenty-four hours, and in most instances this symptom was overcome in six to twelve hours. No death from delirium tremens occurred in the entire series of 450 cases.

The Involution of Senility

NOT very many authors have occupied themselves with the problem of the involution of senility. Canstatt and Geiss in Germany, Dinj in England, Pinel, Cruveilher, Charcot, Demange and Brousse in France have studied it seriously; the lessons by Boy-Tessier of Marseilles, however, constitute the best work on this subject and will largely serve as a basis for this article.

When the human being arrives at the last period of his life he becomes decrepit and is liable to succumb to numerous affections that may carry him off the quicker as he offers them but feeble resistance because he no longer possesses the means for combat as in his years of virile maturity. The fact is that when old age comes on phagocytosis is greatly diminished, the antitoxins and in fact all the antibodies are formed in the smallest proportions, and their immunizing properties are extremely feeble, and so it is that the various diseases can evolve without restraint.

Yet all this constitutes no reason for admitting, with Cicero, that old age in itself is a disease—*senectus ipsa morbus*. It is, in fact, simply a specific phase succeeding that of the adult state, and which, in turn, followed upon that of growth. Old age is a phase of regression, of decadence, but this decadence here is a normal one. It is this that Canstatt wishes to characterize by his expression, "senile involution." This designation does not really imply a definite pathologic state, but a series of slow transformations, insidious and progressive in such a way as not to produce a definite disease. It is the period of senescence as biologists call it, the last stage of living existence verging toward the fatal denouement, the unraveling of it. It is necessary that the physician should know this phase of organic disintegration so that he may act as soon as the symptoms of senility become apparent in his client and proceed to prevent their development.

Old age becomes established when the activities of all the organs of the body are constantly diminishing at the same rate, while when the rate of activity is diminished in one organ only there is disease.

Briefly stated, the organic and anatomic modifications that constitute senility are these three:

1. Pure atrophy of the noble elements.
2. Progressive infiltration of the tissues by organic or mineral elements that are foreign to them.
3. Exaggerated formation of connective tissue.

As a result of these changes we see modifications taking place in the physiologic functions; organic repair is diminished; the phenomena of nutrition are progressively retarded; and this failure goes on throughout the entire system.

The heart and the kidneys become sclerotic. The caliber of the arteries is narrowed, the veins also hardening; the circulation is disturbed, and so the nutrition of the tissues is badly carried on. The heart, in its effort to carry on the fight better, becomes hypertrophied and dilated.

The kidneys, in their turn, become sclerotic and functionate poorly. The poisons and excretions of the organism do not readily filter out of the blood stream, and this gives rise to various and numerous disorders relating to the digestive canal, the liver, the antitoxic action of which is greatly diminished, and the pancreas, whose secretion becomes less active. These troubles are the result of progressive and general atrophy of the glands.

The brain, the nerves, all the dominant organs become dull; memory grows weak; the tympanum is blunted; the crystalline lenses become opaque; the sexual power disappears.

Assimilation is performed with great difficulty. The cells lose their power of repair, and this facilitates the formation of connective tissue. Digestion is performed in an insufficient manner. The waste products and the toxic substances are formed in greater quantities and thus render the period of senility continually liable to sickness.

Senility, therefore, consists in a slow disorganization of the organism, owing to the disturbance of nutrition, to the retrogression of the organs, and to a progressive disintegration; in a word, is due to a failure of the entire economy.

Causes of Getting Old and of Death

It is not age alone that produces aging—getting old. Many a person is old at comparatively but little advanced age, while others are not old at sixty years, or more. Heredity here seems to play a certain part, for there are families whose members present a far greater resistance to senility than is the case in others.

The causes which accelerate senility are numerous, the most important among these being syphilis, alcohol, and various toxic substances, such as lead, arsenic, mercury, tobacco, etc. Nervous causes are hysteria, epilepsy, and tabes. Also prolonged chagrin, violent emotions often repeated, sexual excesses, overexertion in business, abuse of eating.

When agedness has come, then it behooves us to watch over all and every function of the body, for should even a slight affection strike any one of the organs, the balance is destroyed and death may supervene rapidly.

Every senile organ reports its presence to Death whenever the disease of that organ assumes a preponderating part. Thus we have the cardiovascular form of senile disease, the urinary, the dyspeptic and the cerebral form. Against the last-named condition in the aged therapeutics can do nothing, nor against an acute attack of pneumonia. It may be said that these two diseases are without exception fatal in the aged.

However, in the cardiovascular form of senility it is comparatively easy to secure a prolongation of life in old persons. To accomplish this, the individual must be put on a rigid milk diet, of which about three pints should be consumed in a day. We must also secure for the aged patient perfect rest. Every morning and evening give a teaspoonful of stenol. [A mixture of caffeine and theobromine with a proper excipient.] If the urine contains albumin, then the patient is put on a dechloridation diet.

In the urinary form we must be prepared to combat uremia by a strict milk diet, effervescent saline laxatives, diuretics, and pilocarpine.

Is It Possible to Retard Old Age?

Yes, it is possible. Old age can be retarded by hygienic, dietetic and medicinal measures. Let us consider hygienic and dietetic measures first.

Old people almost always eat too much. They take, practically, no exercise whatever and go out but very little; hence there is no need for great quantities of nutriment to repair waste. At the midday meal they may eat enough to satisfy their hunger, but at evening they must content themselves with little, say, a light soup (either clear or thickened), one soft-boiled egg, a cooked apple or some good ripe fruit, but never any meat, that eaten at noon being enough. They must abstain from alcohol and wine. Milk, eggs and vegetables should constitute the basis of their alimentation. They should avoid game, spices, sauces, condiments,

canned meat, oysters, mussels, crustacea, fat fish like mackerel, eel or salmon. The patient should watch carefully his alvine evacuations, for there is nothing so bad for the aged as constipation. The best medicine for him as an evacuant is an effervescent saline laxative, a teaspoonful, more or less, according to need, in the morning on an empty stomach.

He should endeavor to breathe the purest of air. He should protect himself from becoming chilled, for warmth is indispensable for him; so he should wear flannel undergarments. He should keep his skin in the cleanest and best possible condition so that it perform its functions properly. He should have himself dry-rubbed every day, as a stimulant and for general benefit. Lastly, he should take moderate exercise in the open air whenever the weather permits.

Second, there are the medicinal means. A person of advanced age should resort to medicaments as little as possible. He may employ the vasodilators such as the iodides or the nitrites, which assist in a freer circulation, while retarding the progress of sclerosis. But two medicaments I always prescribe, and these are strychnine and stenol. With these we can combat advantageously the general atony of the aged, their lack of nutritive activity and diminished metabolism. The general circulation becomes better, digestion leaves nothing more to desire, and the kidneys act properly.

Strychnine arsenate in the dose of two granules at the beginning of the two principal meals, or three granules at the midday meal alone acts very well on the general condition and on the digestive canal in particular. Stenol in one- or two-teaspoonful doses exerts a pronounced tonic effect on the entire organism. It overcomes fatigue, facilitates walking, and removes that cerebral depression so often noticed during the last period of life. "It diminishes the wear and tear of the tissues and the organs, and regenerates the nervous and muscular systems." But, remember, these remedies must not be given routine-fashion. They may be given one or the other, or alternately, or in conjunction, or not at all, according to need and indication.—Dr. H. Vigouroux, in *La Dosimetrie*, December, 1909. Slightly abreviated by THE GLEANER.

AN AUTOPSY WITH SURPRISES

Rokitansky was unwell and not in the *obduktions-saal* (autopsy room). Dr. Zartchevsky conducted the autopsy. There was not a pathological point to hang a theory on. They came at last to the uterus, when a voice grunted out, "Genug" (Enough!). Zartchevsky was frightened to death, dropped his scalpel and began to cross himself, and getting ready to leave the room he went on crossing himself and murmuring "*Niech Panberg broni!*" (God defend us!) "*Niech bendzi pochvalioni J. C.*!" (Praised be J. C.)

There were just thirteen of us, and one a ventriloquist, and it was Friday, the first of April! This happened some forty years ago.

SUGGESTIONS ON THE TREATMENT OF OBESITY

More recent results of investigations justify more and more the distinction being made between obesity (German, *fettsucht*) and corpulency (German, *fettleibigkeit*). [The humble GLEANER submits the terms "hyperliposis" to denote an overaccumulation of fat in, and "pachysomatosis" to denote a grossness of, the body.] This distinction is of importance also in the therapy of this affection which can not well be the same in both forms.

In this article it is corpulency ("pachysomatosis"), mainly, that is spoken of, which results from overnutrition and "muscular laziness." Unless there be special indications for it, the therapeutic aim can not be merely the rapid melting of many pounds of fat in the shortest possible time. The aim in this condition should be, rather, to institute that systematic unfattening, that reduction of supply in which the corpulent person has learned to keep himself down to that quantity of food which answers the demands of his organism, and at the

same time to accustom himself to a more systematic exertion of his muscular system. The position one should take in estimating the value of the proper therapeutic means can be only that objective one which Von Noorden assumed in his masterly written book, "Die Fettsucht" ("Obesity"). As a matter of principle it is imperative not to swear allegiance to any method to which some special name is attached and put that up as an idol, regarding the patient and his disease as an object for that method.

Muscular activity is of special importance in the therapy of corpulency (*fettleibigkeit* —"pachysomatosis"). Besides the main weapon i. e., dietetics, muscular activity is the most important. Nay, more. It can be regarded as an assured fact that a strict unfattening [let us call it, medically, "depinguation." THE GLEANER] can be better endured along with systematic, gradually increasing muscular work than without it. Muscular work promotes, in the corpulent, both albuminous change (muscle formation) and the feeling of strength. They who have busied themselves with unfattening ["depinguation"] have always experienced that unfattening alone by dietetic means without muscular work often weakens the person, making him less resistant and anemic, while under the combined treatment the person looks fresh, agile, and is strengthened in spite of a restricted diet.

A very noticeable support in the treatment of corpulency are the physical aids, such as hydrotherapy, attention to the skin, hardening against cold, fortifying the nervous system in disturbances of the circulation, and accelerating the loss of weight not, indeed, by melting down the fat but by the giving up of water. In some cases the prescribed quota of work may be specially indicated to be done best by means of certain apparatus.

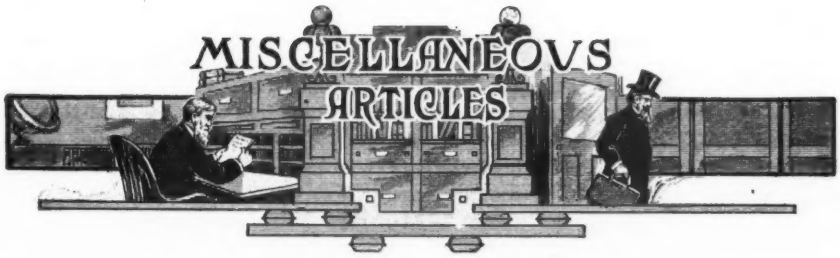
The only gauge by which we can properly calculate the diet and muscular work are the calories. These make it possible to determine in figures the nutritive value of individual articles of food and also to make an estimate of the value of a physical effect. The fundamental principle in the therapy of corpulency is to individualize and not to generalize.—Dr. Martin Englaender, in *Wiener Medizinische Wochenschrift*, 1910, col. 108.

ECLAMPSIA AND THE WEATHER

Richard Schlichting, at the suggestion of Prof. Bumm, collected statistics of occurrences of eclampsia and concurrent weather conditions, showing what these conditions were on the days when eclamptic seizures took place. It proved that most cases occurred in April and May and the fewest in June and November. According to Schlichting, the weather, when eclampsias do occur, is mostly either cold, murky, rainy, foggy, while in the summer it is humid, sultry, hot, cloudy, and stormy. (By the way, Berlin midwives speak directly of "eclampsia weather.") The connection between weather and eclampsia is not clear as yet, but it is probable that the weather (frequently a change of the weather) is only one of the factors. To draw any inference on the course of an eclampsia from the state of the weather is not justified.—*Münch. Med. Woch.*, 1909, p. 2712.

FLIES AS INFECTION BEARERS

At a meeting of the Medizinische Gesellschaft of Leipzig, June 15, 1909, Dr. Curschmann reported on his investigations of the danger which flies present as disease-carriers. [Please permit the birth of "germiports" as a legitimate brother to "germicide."—THE GLEANER.] Flies caught in the barracks hospital were permitted to walk over plates of Dragalski nutritive medium, whereupon the development of numerous bacteria colonies was observed, among these, streptococci, staphylococci, and colon and typhoid bacilli. The latter especially were abundant after the flies had come in contact with the excretions from typhoid patients for but a short time. Flies, therefore, can transfer infectious material onto nutritive media, thus showing the necessity of fly destruction.—*Wien. Med. Woch.*, 1910, col. 42.



Trouble Ahead for the Dispensing Doctor

IN the February number of CLINICAL MEDICINE, as our readers will doubtless recall, we gave warning of the probability that a bill would be introduced in the present Congress which, while primarily designed to prevent traffic in habit-forming drugs, would be so framed as to put a quietus upon the dispensing doctor. It should be remembered that this was the apparent purpose of the notorious Mann bill which was exposed in these columns last year.

The new bill to which we referred was recently introduced in the United States Senate by Senator Shelby M. Cullom of Illinois. As we stated in the February editorial, its apparent object is an entirely worthy one, having our fullest sympathy, namely, the curtailment of the drug-habits. We shall most heartily lend our influence, as we are sure every earnest physician will also, to the enactment of laws aiming to keep these drugs out of the hands of the layman, but we shall just as energetically oppose every effort to tie the hands of the physician, who alone is competent to decide as to whom and under what circumstances and at what times these valuable remedies should be administered. Certainly he, of all men, should be free to obtain them from the sources of supply which seem to him best.

The bill, as introduced by Senator Cullom, provides that every person dealing in opium, morphine, coca leaves, cocaine, alpha- and beta-eucaine, chloral, cannabis, their salts, derivatives or preparations, whether importer, exporter, purchaser, pharmaceutical chemist or manufacturer, wholesale dealer or retailer, shall register with the Collector of Internal Revenue, paying him a special tax of $10.00 per annum if manufacturer, jobber or dealer in these drugs in quantities, or $1.00 per annum if a "retailer or distributor at retail."

In addition there shall be levied an internal revenue tax of one cent per ounce or fraction of an ounce upon these drugs, to be paid by the purchase of proper stamps to be affixed to every original package. This tax shall be paid but once on any given supply. Every person dealing in these drugs, whether in large or small quantities, "shall keep such books, render such returns and give such bonds" as the Commissioner of Internal Revenue may prescribe.

The joker in this bill is Section IV, which reads as follows:

"That it shall be unlawful for any person to sell, or give away, in interstate commerce, any of the aforesaid drugs, or any of their salts, derivatives or preparations, to any person other than a person who has registered and paid the special tax as re-

quired by this act; but that nothing contained in this section shall apply to public hospitals or to scientific or public institutions."

The physician will note that no provision whatever is made for him under the terms of this bill. His only source of supply is apparently to be the retail pharmacist, who, by the terms of this proposed law, is to be given an absolute monopoly of the distribution of these important drugs among the people who are supposed to need them.

Furthermore, it will not be easy for said retailer to secure his stocks, for how is the manufacturer or the jobber to know whether the former has taken out his license and paid his tax? If the latter sells to any distributer under the presumption that he has complied with the law he incurs the risk of a heavy fine and imprisonment.

It is not quite clear whether or not the physician is to be permitted to purchase these drugs for his own needs except from his local druggist, under any circumstances. There is a possibility that he might register under the law as a "distributer at retail," under the presumption that he sells or peddles out morphine or cocaine to people who have legitimate use for them; but this will depend entirely upon the interpretation put upon the law by the Commissioner of Internal Revenue, in whose hands are all the details pertaining to its enforcement. Every retailer or "distributer" is to be required to pay a tax of $1.00 per annum and secure a Government license.

If the physician does not or can not take out such a special license he will be limited as to his supplies to the brands, quality of drug or form of preparation which the retailer (and in many localities there is only one retailer within a radius of many miles—and in some cases none) may be pleased to supply. He can not compel the retailer (usually a small tradesman of limited capital) to carry a stock of adequate size, variety and quality to meet his needs. He would also be compelled to pay whatever prices may be charged, being practically debarred by law from resorting to other more or less remote but legitimate channels of competition. The penalties provided are very high: any person who violates the act, on conviction "shall be fined not less than $500.00 and not more than $5000.00, and be imprisoned not less than one year nor more than five years, or both, in the discretion of the Court."

Furthermore, according to Section VII it is considered *prima facie* evidence of guilt if the defendant is shown to have or have had in his possession the aforesaid drugs, salts, derivatives or preparations thereof, "unless the defendant shall explain the possession to the satisfaction of the jury." In other words, even though these drugs were not obtained through interstate commerce, any meddlesome busybody who sees 100 morphine tablets or a few ounces of cocaine solution on the doctor's shelf may have him arrested, brought before a Federal Court (no matter how far from home) and tried for a criminal offense, threatened with a large fine and imprisonment, and the burden of proof as to his innocence will rest upon him.

Bills like these are undoubtedly but the expression of the determination on the part of a certain element of the drug trade to legislate the dispensing doctor and all those who supply him with his remedies entirely out of business, or at least to make the former dependent upon the retail drug trade for the remedies which he uses.

Within the last decade or two there has been a wonderful increase in the amount of dispensing among physicians. Today probably nearly 100,000 doctors dispense their own remedies in whole or in part. This custom is increasing and has alarmed the retail drug trade. It is a natural response to an economic condition and can no more be stayed by the hand of law than the wind can be stopped blowing by an act of Congress; but of course it is possible to make the doctor all kinds of trouble by such proposed legislative interference with inherent right, and *the quickest way to prevent trouble is by doing our fighting right now.*

We therefore urge every reader of CLINICAL MEDICINE *to get into touch with and use his*

influence upon his senators and congressmen, that such modification of this measure may be made as to protect his rights and the rights of those who supply him. This can easily be done in the Cullom bill by modifying Section IV so that it shall read: "but that nothing contained in this Section shall apply to licensed practitioners actively engaged in medical practice, to veterinarians actually engaged in the practice of their profession, to public hospitals or to scientific or public institutions."

Take this up with your senator and congressman and do it now. Meanwhile write us, tell us what you are doing and what you purpose to do.

It is a time to keep awake and to fight class and trade legislation harmful to yourself. The profession of medicine is unremunerative enough now. What will it be when we are compelled by law to pay a portion of our earnings in graft to a sister profession, with whose difficulties we sympathize but which we shall strenuously object to supporting, even "by Act of Congress?"

Get busy!

THE TREATMENT OF GRIP

On reading the February issue of THE CLINIC, I am very much surprised at the large amount of medicines given by some of the doctors in the treatment of grip. I am very anxious to have some of the "family" try out my own very simple but successful plan. As things are in this section, I am usually called early in the morning and very hastily, often at night, and find a very sick patient suffering with a severe headache and muscular pains almost unbearable. To relieve this I give from 8 to 15 grains of the following mixture, which my druggist prepares for me in bulk:

Acetanilid	ozs. 1 1-2
Sodium bicarbonate	drs. 6
Ammonium carbonate	drs. 3
Caffeine citrate	drs. 3

Follow this at once with a hot lemonade containing 1-2 to 1 ounce of whisky. This will relieve most of the severe pains for a while. Then clean out thoroughly, by the CLINIC plan, with calomel and podophyllin, and the saline laxative flush. Then every four or five hours, during the waking hours, I give 15 to 20 grains of sodium salicylate [That's a lot, Brother!—ED.] for four or five days, but this my patients rarely ever take longer than the third day. If I have a very old or feeble patient, I give strychnine nitrate from the start. Out of sixty patients, I have made a second visit to only two of them. I hope some of the "family" will report their success with this treatment.

A. R. WRIGHT.

Renfroes, Ga.

PNEUMONIA SUCCESSFULLY TREATED

I have used a few of the alkaloids for some time, but have lately begun to depend on active-principle therapy entirely. ("Better late than never!" some good brother may say.) The following is my first case of pneumonia, treated according to alkalometric principles:

Boy, age 11 years, had a chill at 4 o'clock Friday morning, was restless all day, complaining of ill-feeling, and vomiting. The next, Saturday, night he began spitting blood. I was called on Sunday at 2 o'clock in the afternoon, finding the patient with slight convulsions, temperature of 106° F., coughing, and severe pain in his right side.

This was my treatment: Calomel, gr. 1-6; podophyllin, gr. 1-6, hourly until six doses of each were given; the intestinal antiseptics; aconitine, one granule every twenty minutes, until the temperature dropped to 103° F.; dosimetric trinity No. 2; calcidin, a dose of each every four hours. Monday found the patient resting well, but temperature still 103° F. I pushed aconitine until the thermometer registered 101° F. Tuesday the patient was resting well, lungs had nearly cleared, temperature was normal, and he felt ready, in his own mind, for a "good, square meal." Is it a wonder I feel encouraged, and delighted with the alkaloidal method?

Just here let me add a word in favor of the Postgraduate Course. Although I did

not enroll as a student, I study the lessons very faithfully every month. Have received lots of pointers and feel that I am getting a general "rubbing up." THE AMERICAN JOURNAL OF CLINICAL MEDICINE "needs no eulogy, she speaks for herself."

D. A. PETTIT.

King, La.

AN EXPERIENCE WITH GRIP

Frank C., aged 25, had been complaining for several days of myalgia, sneezing, hot and cold sensations. He had had a chill at 7 in the evening, and I was called the next morning. I found the throat very red, the eyes injected, pain in both lungs. He was constipated. There was profuse bloody expectoration. I found dulness in both lungs, a temperature of 103° F., headache, the tongue coated. The patient was dejected and discouraged, and said: "I am up against it—got pneumonia. Had the same symptoms twice before—each time in bed three weeks or more."

I took issue with his diagnosis. The family where he was sick were *all* in the throes of a virulent form of grip, and all were improving under the following treatment:

One grain of calomel and soda every half hour until seven doses are taken. Follow in four hours with a dose of magnesium sulphate or castor oil and 10 drops of oil of turpentine. For the fever: acetanilid compound, veratrine, aconitine, or the defervescent or the dosimetric trinities. For pain heroin is the last resort, as opiates are not the best in grip and must only be used if *absolutely necessary;* better are mustard drafts, or the old-fashioned prescription: lard, camphor, kerosene, oil of turpentine and vinegar, equal parts, on a flannel, to be applied over the affected parts night and morning, with 5-grain doses of aspirin one to three hours apart as necessary. This will control most pains. If not, I add the heroin, or morphine with hyoscine. For the chilly sensation I use Da Costa's heart stimulant. If much depression or prostration is present I use strychnine to effect. I paint the painful throat morning and night with a 5-percent solution of argyrol. Every three hours I mop or gargle or spray the throat with dioxogen, pure or diluted one-half, with a three-tip spray having nose-piece, using the crooked tip for postnasal and pharyngeal affections, the straight tip for the fauces. As disinfectant I use formaldehyde, the 40-percent solution diluted, with five times its bulk of water. I put a teaspoonful or more of this in a small pan on the hot stove four or five times a day, instructing the patient to have the doors and windows tightly closed, breathing the medicated air deeply into the lungs and up into the nose.

Now for the cough. Take of spirit of camphor one teaspoonful, oil of turpentine, 10 drops, and of pure apple vinegar half a teacup. Put in an empty baking-powder can or a small tin cup, make a funnel out of coarse paper without printing (for ink is poisonous) and invert the same over this heated cup. The small end is used by the mouth in drawing the fumes of this into the throat, trachea and lungs.

This treatment I myself received at the hands of the venerable and beloved Prof. A. W. McAlester, in 1887, while yet a student, for a severe acute attack of bronchitis. I have been employing it in all cases of pneumonia and diseases of the lungs where the mucous membrane is involved. It has never failed me yet

When the stomach is irritable, white of egg in water. As long as the fever runs high and complications of the bowels are present, I use beef tea, or squirrel, rabbit or bird-meat bouillon, buttermilk, fruit juices of all kinds, every three or four hours. After the bowels have moved after calomel, I use, in such complications, Waugh and Abbott's intestinal antiseptics, midway between the meal-times, i. e., one and one-half hours after eating. I give this to effect. Now, in addition to all this—the calomel, magnesium sulphate and castor oil—one sometimes has to order enemata. I make it a rule to have the bowels move daily.

Returning now to my patient. Sunday, at 11 a. m., I was called. Monday I made a visit to see that my instructions were car-

ried out in detail, and to reinforce them where they might be wanting. I found him very much improved, and the Thursday following my patient, who had taken "another siege of pneumonia," had left his bed and gone twelve miles to the county seat.

Grippal conditions quickly yield to this clean-out and clean-up method. My fumigant, formaldehyde, I fell upon through necessity. I would invariably bring to my family, and infect them with, the most virulent types of grip, so I hit upon formaldehyde solution, diluted as above, and used it in my home as a preventive. It worked so nicely (and didn't kill us!) that I used it on my patients also.

Have been a reader of THE CLINIC for fifteen years.

S. P. STOWERS.

Millerburg, Mo.

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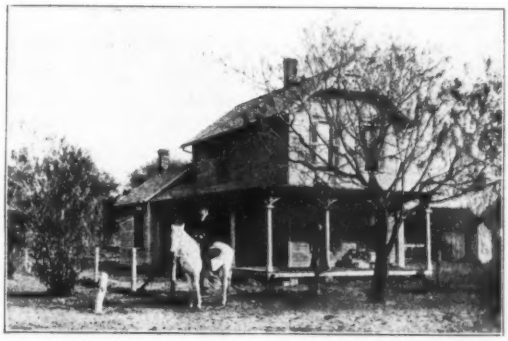
[Dr. Stowers has fully grasped the principles underlying the treatment of influenza, and therefore the general management of all infectious diseases. First of all is elimination, the next is support, and the prevention of further infection follows as a matter of course. The case was well managed, and the prompt recovery was a thing confidently to be looked for. Still, the patient did a foolhardy thing to undertake that long journey. He might have suffered a serious relapse.—ED.]

FROM A FLORIDA USER OF THE ALKALOIDS

I have seen no pictures to represent this section, so the family may be amused or interested to see a "cracker" doctor's home and pony outfit. The pony is Florida-raised. They are called "marsh tackeys" or "marsh ponies." Though past 65 years, I like riding better than driving any distance less than ten miles. I use a pair of small hand-satchels, which I connect with a strip of webbing, and place across my saddle. With a case in each, and bottles and boxes, I carry more than 50 of the alkaloidal remedies, and a dozen others.

I have taken and read THE CLINIC from its first year of publication. I also used the alkaloids; but it has only been within the past eight years that I have done so to a considerable extent—for the last six years constantly. Now I never fail to use them in every case. I give nine doses of these and synergistic remedies to one of anything else. I could not and would not be without them. I think I am a *physician* with them now; but many times in previous years, and with the "old-time" remedies, I know I have not been so in a full sense.



Home of Dr. J. M. Jones at Interlachen, Florida

May you live long, and be happy and prosperous.

J. M. JONES.

Interlachen, Fla.

PEDIATRICS

It is a pleasure to note the improvement in the appearance of *Pediatrics*, which has recently been acquired by Dr. William Edward Fitch. It is larger, more carefully printed and contains a considerable amount of excellent editorial matter. Dr. Fitch has also associated with himself an able editorial board, assuring the production of a magazine of first quality—one which promises to be a real contribution to the current literature of this important specialty.

The subscription price is $2.00 a year, and it is issued by the Pediatric Publishing Company, 320 Manhattan Ave., New York.

THE STORY OF A BROKEN ARM

I promised you a history of my broken arm. Well, here it is.

About 1863 I was practising medicine in Rushford, Minn. Needing supplies I decided to go to Winona, some twenty-five miles distant, where I could get what I needed. At that early day there were no public or private conveyances, except heavy freight wagons or sleighs. A patron told me he was going to Winona with a load of slack walnut boards and offered to take me along if I could ride that way. I gladly accepted his offer. There was a chain around the boards to keep them in place, and a bag of grain for my seat—a la horseback. So, thinking I could hold on to the chain for safety and finding my seat comfortable, I set out.

It was a crisp, clear morning, the last of November; the dry air was like a tonic which I greatly enjoyed. The ground, covered with a light snow, was frozen solid. The heavy wheat teams had here and there worn ruts in the road, but I kept watch and clung to the chain. Presently a gust of wind blew my heavy veil double over my face. I let go the chain to remove the veil, when the wheels suddenly slid into a deep rut, striking the hubs against the frozen ground and tossing me off like a ball. Upon getting up I found that my left hand lay tightly against the arm. Several wheat teams were along. I asked one of the men to take hold of my fingers and pull my hand out straight. They demurred, but finally one did it with my help. I then found the radius was fractured, splintered off, and the ulna dislocated. I tried to put the latter in

Radiograph of Dr. Plantz's twice-broken arm

place, but it made me sick and faint. Grasping some snow from the bank I rubbed it over my face, for I was determined not to faint, nor did. They gave me a seat on a load of wheat, but I had to ride ten miles before there was a chance to get a drink of water or bathe my wrist, and five more to reach Winona. I did not have the best of surgical assistance and the splintered bone slipped by and united, leaving the radius 1-2 inch shorter and the ulna dislocated, remaining so, now forty-seven years. The member has always been very painful, but, still, useful.

Now, dear doctor, that I am almost eighty-one years old, I have fallen, as I wrote you, going out of the kitchen door after dark and stepping on the edge of an empty water-pail, whereby I was thrown onto the stone steps, breaking both bones of my left arm, about two inches above the other fracture, and the shoulder also. Now comes the peculiar part of it. I was anesthetized, and the surgeons, not knowing about the change in the length of the radius, tried to reduce the dislocation of the ulna before setting the broken bones, with the result that you will see in the x-ray photograph which I send you by this mail. I hope it will interest you. The surgeons were competent and I do not blame them. The shoulder is not right, but that is my fault.

I am able now, after three months, to do my housework, except the heaviest part. I can put my thumb and fingers together, which is a great help. I am so thankful that I can be useful. When I cease to be of use I hope to try the environment of another world, though I have no fault to find with this one.

LAURA M. PLANTZ.

Putney, Vt.

OPERATION FOR INGROWN TOE-NAIL

A simple operation in ingrown toe-nail is to slice off a section of the overgrown flesh under local anesthesia and rigid antiseptic precautions. The toe can be properly dressed and the former sufferer sent on his way, loosely shod temporarily, with the full assurance of permanent alleviation from an excruciating condition.

The prompt relief afforded, measures being taken, of course, toward the proper healing of the sensitive part operated on, and the assurance of permanent immunity are sufficient inducement for a sufferer to choose the operation rather than undergo a further day of pain and inconvenience from the cause in question.

Considering the wretched mutilations resorted to in this class of cases in the vain hope of relief, this operation cannot be endorsed too highly.

FREMONT E. WOOD.

Villa Verde, Sonora, Mex.

COUGHS AND COLDS

The quickest way to relieve a cough, in my experience, is to give the patient a good, thorough cleaning out with calomel and saline laxative, and to stop the diet entirely for three or four days, then starting eating this way: for adult, give two pieces of toasted bread and two eggs twice a day, leaving out the middle meal—no meat. This treatment, supplemented by almost any of the anodyne expectorants, has served me for more than eight years without failure. The condition seems to result from some material in the food or from its decomposition entering the blood and causing a general systemic irritation.

I have never employed this treatment in whooping-cough, but it is a success-producer in nearly every disease I ever treated. I cured a leg ulcer in one week with this method, added to the advice given in the "Digest of Positive Therapeutics" by W. C. Abbott. I have practised now fourteen years and have never lost a case of pneumonia, and I attribute these happy results to starvation and cleaning out the system and keeping it clean.

One of my standing rules is never to give food during fever, unless it runs over twelve days, and even then I hesitate, no matter what the cause. Usually I clean up every second day with calomel and use sul-

phocarbolates until the tongue is clean. A well animal never has a coated tongue; when the tongue begins to show more coat, no matter what the color of it, you should get busy, for you will have a back-set; and if you are awake you can prevent it many times, and always meet it half way.

G. L. BAUGHMAN.

Kansas City, Kan.

A MAKESHIFT THAT WORKED

A few days ago I was called to see a woman in the "red-light" district who was fearful that she had contracted gonorrhea. She complained that the cervix and the upper portion of her vagina were extremely sensitive and that she had a profuse leucorrheal discharge. She gave a history of an endometritis following an abortion, some years ago, and said that she had had an abscess in the neighborhood of the uterus, two years ago. She also informed me that she flowed from ten days to two weeks at her regular monthly periods, but never had any pain to speak of at such times, although occasionally she suffered from vertigo because of the extreme loss of blood.

On making an examination I found, on deep pressure, that both ovaries were sensitive, although not to a considerable extent. Vaginal examination, by speculum, revealed some inflammation of the neck of the uterus, with a viscid, nonpurulent discharge. The uterine canal was very patulous, and a sound was introduced to the fundus without meeting any obstruction or causing any pain. I cleaned the uterine canal and vagina thoroughly and swabbed them with a 2-percent solution of protargol. There was very little pain caused by the introduction of the speculum or the following manipulation.

Prior to making the call, realizing that I had no antiseptics other than corrosive-sublimate tablets and phenol, I endeavored to find something else at the local drug-store, but owing to a very incomplete stock, was unable to find what I wanted. As a makeshift I dispensed a number of intestinal-antiseptic tablets, with instructions to dissolve two of the tablets in a pint of hot water and to employ this as a douche twice a day. I promised to see the patient again in three days. When I called she said that she was feeling better than she had for a long time. She reported that at the end of the second day the local pain and soreness had disappeared completely and the leucorrheal discharge was less than it had been for some time. I instructed her to continue with the tablets in her douche. For the excessive menstrual flow I am giving her Buckley's uterine tonic three times daily, and hope to have a favorable report to make within a month. It is my intention to employ the glycero-magnesium suppositories in order to overcome the uterine discharge.

I cite this case to show what one is obliged to do on occasions when thrown on his resources in an emergency, especially when located a considerable distance from a base of supply, and how a makeshift frequently will get results equal to those obtainable from special remedies for special conditions. I based the use of the intestinal antiseptics, in this case, upon the idea that if they were antiseptic in action within the mucosa-lined intestine, their action would be similar when applied to the vaginal and uterine mucous membranes, and the results more than upheld my conjecture.

This beautiful home is that of Dr. W. H. Landis, Buchanan, Mich.

This experience shows conclusively that the practician should never allow the absence of any specific remedy to interfere with his work, as he can almost invariably find some makeshift which will do the work. In this case I have a satisfied patient, because of the relief, and am more than satisfied myself because of the results. Had I waited until it was possible for me to fit the case exactly, the inflammatory process would have progressed and the results been anything but satisfactory both to myself and the patient. As it is, the patient said that I had given her speedier relief than any other doctor she had ever had.

The residence of Dr. W. H. Aldrich, Marlboro, N. H.

In this case I have a flabby uterus to contend with, one that is submitted to more or less abuse all the while, and in which there has existed an endometritis for a number of years; thus the excessive menstrual flow undoubtedly is due to the atonic condition, combined with subacute and chronic inflammation. I anticipate considerable relief through the Buckley's uterine tonic and depleting suppositories, and shall report results later on. GEORGE L. SERVOSS.

Fairview, Nev.

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[Since writing the above report, Dr. Servoss informs us that his patient continued to do well with the douches of sulphocarbolates. There was absolutely no reason why the three sulphocarbolates should not have been used in the condition described, and in the manner in which they actually were employed. The name "intestinal" antiseptic does not in any way prevent their use in septic conditions on mucous membranes elsewhere than in the intestines. The present writer remembers having employed these tablets, some years ago, in the same manner as Dr. Servoss has done and with the same happy results.

We must never forget that we do not treat diseases by name, but that it is conditions we treat. Nor are our remedies labeled or limited in their use by their names. Each one of them has a range of indications in which it may properly be used, and in which it may be so used no matter what the name of the particular trouble on hand may be. Thus we find the Buckley uterine tonic pills of excellent service in neurasthenic conditions in male patients even though men have no uterus to be treated. Again, aconitine is the fever remedy *par excellence*, yet it may be given with propriety and confidence in certain forms of neuralgia. (See Shaller's "Guide.") And thus we may find instances all through the alkaloidal pharmacopeia.

The all-important thing is to think, to determine the exact conditions which confront us, and then to meet them with the best means at our command. Dr. Servoss has done well indeed and is very properly gratified over his results.—ED.]

THE TREATMENT OF TONSILLITIS

I do not wish to be a pig, accepting all the good things, profiting by them, and then

not give anything in return. So I will add my mite in the way of a short description of my way of treating tonsillitis, and that with good results, too. This is for those cases where the physician is called before an abscess has formed—in the latter instance lancing, of course, is the proper treatment, to evacuate the pus.

I begin with the clean-up and clean-out, putting the theory into practice by giving 1-10 grain calomel every hour for six or eight doses, following with the saline laxative and thereafter with the intestinal antiseptics, continued throughout the attack so as to keep the bowels sweet. Internally I give the tonsillitis tablets, "Abbott," one every one or two hours, depending on the severity of the congestion and range of temperature.

To prevent the formation of any abscess, I give calcium sulphide, 1-6 to 1-2 grain every hour or two to saturation. Along with this I give nuclein solution in 4-drop dose, as usually there is anemia present—a disorganized condition of the blood. Do not forget to repeat the saline laxative as often as necessary to flush out the intestinal tract and carry off the poisons generated in the fermenting mass.

The local treatment is, in the first place, a gargle, consisting of equal parts of hydrogen peroxide and boiled (cooled) water. This cleans the surfaces of all adhering mucus. This is followed immediately afterward by another gargle having the following composition:

Potassium chlorate	drs. 2
Fluid hydrastis	drs. 4
Glycerin	drs. 4
Water, q. s. ad	ozs. 4

Mix one teaspoonful with one of *hot* water, and use as a gargle, repeating every one or two hours, preceded by the gargle of hydrogen peroxide and water. Continue this treatment as directed until the throat is improved; then give the doses of all remedies prescribed less often, until well. After that, in order to build up the entire system, follow up with the triple arsenates and nuclein tablets, one every two or three hours. It is my sincere hope that this short contribution may prove helpful to some of the "family". Let the good work of CLINICAL MEDICINE go on.

W. FRANCIS ERTELL.

Kalamazoo, Mich.

APOLOGIA PRO SUA VITA

Your recent letter tells me of the receipt of the picture. It also reminds me that I did not send along the frame, i. e., some words telling of "how you live, where you live, why you live."

After a look at myself in the picture sent you, I am not surprised at the last question, "Why do you live?" For, had I been alone in the picture, the verdict would be marked, "road-agent." However, already another has seen the question, "Why do you live?" and she may see this letter before it starts on its way to you. So I would better state in the beginning: I live to Love, Honor, Protect and OBEY the "beautiful wife" (you diplomatically discovered in the picture) according to these ten matrimonial commandments:

First. Never, except for the best reasons, to oppose my wife's will.

Second. To discharge all duties for her sake freely.

Third. Never to scold.

Fourth. Never to look cross at her.

Fifth. Never to worry her with commandments.

Sixth. To promote her piety.

Seventh. To bear her burdens.

Eighth. To overlook her foibles.

Ninth. To serve, cherish and forever defend her.

Tenth. To remember her always in my prayers. Thus, God willing, we shall be blest.

Incidentally I live to "heal the sick," many of whom get well, but are not able to appreciate financially the good result obtained from the administration of clean alkaloidal remedial agents.

Zimapan, Hidalgo, Mexico, is where I live. The town of Zimapan is more than one hundred years old. It is described in Ward's "History of Mexico," published in 1825 or 1827. It has been a mining and

smelting center almost from its beginning. Ninety percent of the population are Indians, so called; but in reality they are but smoky embers of a noble race that has vanished. Each and every stomach of these smoky embers, from adult to infant, is "pulqueized." Pulque is a filth breeder from beginning to end. I have read Dr. James L. Neave's article on "Indian Life" with a kind of "fellow feeling."

My work chiefly consists in looking after the requirements of several mining and smelting operations here and in the vicinity along medical lines, while I also have a practice on the various ranches.

"Why do you live?" you ask. High over all, I live along with my noble helpmeet, who has no superiors and few equals, to enjoy and appreciate this beautiful world

Dr. W. L. Austin and wife, Hidalgo, Mexico

God saw fit to place me in and give me a helpmeet. So to live in the present that I can feel and know that the Bible is the only true light upon one's pathway, and to feel its consolation no science can ever bestow. For:

"No coward soul is mine,
No trembler in the world's storm-troubled sphere;
I see heaven's glories shine,
And faith shines equal, arming me from fear."

WALTER LEE AUSTIN.

Zimapan, Hidalgo, Mex.

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[The editor is glad that his letter, asking for a "story" to go with Dr. Austin's picture, even though it was couched in somewhat flippant style, brought out the doctor's high-minded reply. He has justified himself—and I opine that the good wife had some share in said justification. "No man liveth to himself alone." Would that every man recognized his duties to others as clearly as Dr. Austin, and had a faith as firmly established in the eternal verities.—ED.]

A WELL-BRIDLED TONGUE!

Last month, while I was out on a social call in the east part of the town, a neighbor came in to telephone for another physician. I was told that a little boy had a fishhook through his tongue. Not being able to get their choice for an hour, they asked if I could do anything for him. I told them that I should have to go to my office for something heavy enough to cut the hook, and in all probability their regular physician would arrive before I could return. However, in a few minutes the people sent for me to come over.

Arriving at the house, I found a boy of about four years of age with his tongue securely fastened in the buckle of his overalls, he having pushed his tongue through the buckle and the tongue of the buckle had passed clear through the tongue about one-half inch from the tip. I pushed the circular part of the buckle back on the base of the tongue, them raised the tip of the tongue and let it slide out. Needless to say, both mother and boy were mighty happy.

I shall take pleasure in sending you a report occasionally. Am still a comparatively young man, but have discovered that it pays to get quality when you are buying remedies.

H. M. HOLVERSON.

Boise, Ida.

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[It is often these little accidents properly managed which establish the reputation of young practicians. Thank you for your

little report, and by all means let us have more. Something on your experience with exact therapeutics. Concise and to the point.—ED.]

DISCUSSING THE MEETING

Now that it is nearing the time for the annual round of society meetings the following poem, which we clip *without* credit—since we do not know to whom it really belongs—seems quite appropriate:

"That paper by Slisky was pregnant with thought;
What a wonderful view of the subject he caught,
And—yes, I'll take bourbon—his—never mind ice—
Argument's bully—gosh, that highball is nice!

"The opsonic index seems less than we thought—
O, never mind money. That other man bought—
But vaccines are destined to come to the fore—
Your glass is quite empty. Say, ring for some more.

"That guy from Vienna is twenty years off.
That same operation was done here by Goff.
And—suffering tom-cats, it's surely a sin
To call that concoction a London Dock gin.

"But Bruphy was ready with pretty good stuff,
While Stickney said nothing—but, my, what a bluff—
But the doctor from Texas reported—what's that?
I'll buy a drink, sure! Put don't sit on my hat.

"Gee, wouldn't it be bully if we had the chance
To hear such good papers on science expanse
'Bout once in a week 'stead of once in a year—
Why, hanged if old Davis ain't gone back to beer!

"Say, what's got the matter? Say, Billy, what's wrong?
Let's have a fresh drink—let's all sing a song—
Let's brace that policeman to see if he'll tell
The street we must take for that blooming hotel."

SALT SOLUTION IN TYPHOID FEVER

I have been taking CLINICAL MEDICINE for more than two years, and as yet have never contributed anything to its columns from the standpoint of personal experience. If the slight information possibly contained herein is of value to any of the "family" I shall feel gratified, indeed.

Typhoid fever, that ever-present problem, has given me plenty of opportunity to use my brains, and I find that cases, especially those where the victims have been allowed to run around at home, either without any or else with improper treatment, until they have reached that high degree of toxemia due to lack of just plain water in the system, are among the most difficult to handle.

The picture here before us is this: Extreme delirium of a low type; the skin dry, hot, and rough; the tongue dry, fissured and cracked, covered with dry sordes, as are also the teeth and gums; secretions and excretions "locked up;" there is no bowel elimination; kidney secretion is scanty, containing albumin and numerous casts; abdomen is distended. The heart, overcome by this great toxemia, is running along at the rate of 140 to 160 beats per minute, with a small, weak, thready, low-tension pulse; temperature, 104° to 106°F. The entire picture plainly says: "Put on water to quench the fire."

Now, what is the quickest and most efficient method to accomplish this? I answer at once, "Hypodermoclysis and salt solution per rectum." I have injected, in some of these cases, as much as 4000 Cc. of normal solution subcutaneously in twenty-four hours, and given a pint of physiological salt solution per rectum every four to six hours, at the same time. The results have been truly wonderful in the vast majority of cases. The salt solution introduced into the circulation dilutes the toxins, aids diuresis and diaphoresis, puts down the temperature, and lessens delirium.

For stimulation I use fluid extract of digitalis, 5 minims every four hours, hypodermically in whisky; also strychnine nitrate, 1-40 grain every two or four hours. This puts the heart into shape pretty promptly. I have used this dosage for a week to ten days continuously, and when the patient came under treatment in time, I have never seen other than the most satisfactory of results following.

For intestinal antisepsis I use calomel in fractional doses, besides the sulphocarbolates, bismuth, and betanaphtol. If constipated, I administer daily two salt-solution enemas containing one dram of oil of turpentine to the pint, which also relieves distention. For the latter trouble, also, an application of olive oil and oil of turpen-

tine (equal parts) rubbed on the abdomen and covered with hot-packs does very well. For food I order milk, water, koumiss, whey, predigested beef, and if the patient can take it, six to ten raw eggs daily. Those patients who are able to take the most nourishment, as a rule, do the best and have the least complications. I should like to hear the experience of others in regard to the use of normal salt solution in typhoid fever.

E. L. Haswell.

Albany, N. Y.

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[The Doctor's suggestion relative to the salt solution is indeed excellent and we hope many will respond with "experiences"

The wife, children and father of Dr. B. W. Kelly, Aitkin, Minn.

such as he requests. We agree that it is of the utmost importance to combat the toxemia; it is for this reason that we insist so strongly upon cleaning out the bowels thoroughly, and upon deodorizing the stools with the sulphocarbolates. If this is done, and *well* done, the symptoms of intoxication almost always rapidly diminish. In any severe cases in which the toxemia does not yield to these measures, and promptly, Dr. Haswell's suggestions deserve a trial. They are based upon sound logic and must without doubt prove of benefit in many instances.—ED.]

ALKALOIDAL PRACTICE; SOLUBILITY OF GRANULES; "OLD-AGE" SERUM; MAGNESIUM POISONING

In looking through the February number of CLINICAL MEDICINE I find an article written by me. And this reminds me of an anecdote told me by a doctor. The doctor was a musician, and while being shaved one day he was annoyed by a darkey, the bootblack of the barber shop, thrumming away on an old guitar.

The doctor said to him: "George, why don't you play something else than that eternal thrum, thrum, thrum?"

The darkey looked up, somewhat surprised, and said, "Well, Doctor, I'll tell you. I's been around 'siderable and I's heard all sorts of music, and I'll tell you, I had about as soon hear myself play as any music I ever heard."

This article of mine is, to me, about as readable as any that I've seen. What contributor is it that does not enjoy reading his own productions?

I met Dr. R. K. Ogilvie of Blodgett, Missouri, this week, and he is about as enthusiastic an alkaloidist as one ever sees. He has thrown aside galenicals entirely. He and his brother Fred are doing an immense business. Dr. Roy says that the H-M-C tablet is a success and a money-getter. He uses it extensively without any fear of the evils which are said to follow its use. He, however, advises the profession not to use it in connection with atropine because the combination makes the patient as wild as a buck.

Granules.—They get hard and do not dissolve readily in cold water. If you do not believe it, try a few of the morphine granules that have been on hand some time. Morphine is as soluble as any remedy used, but morphine granules are not. Try it before replying.

By the way, your stunt in answer to Brother Lloyd is like "George's music,"

but your premises are not so well taken. Alcohol, when it has an alkaloid or any other medicine in solution, will always make good when you give it. It is soluble—see? Solubility cuts a large figure in medicinal effects. A tablet of morphine and quinine might pass through the alimentary canal undissolved, but a teaspoonful of alcohol solution could not. See?

A Wisconsin winter scene—home of Dr. A. D. Campbell, Richland Center

Brother Lydston is graphical on the race-question, but nothing except time will settle it.

Frog and Turtle Sera.—Your Baltimore correspondent tries to be original and may be as to the salt-water question, but when it comes to frog and turtle sera, I am the original. I wrote these up for the *A. M. A. Journal* years and years ago. A French professor tried to down me on the turtle question, but I showed conclusively that he was a back number. I had letters from Georgia and other states inquiring as to details of my discovery and methods. The turtle never dies a natural death; and the occasional use of turtle serum would make a man live so long that Methuselah would not be in it. I was afraid to distribute turtle serum for fear some of my enemies might get hold of it and live forever. The frog serum also had a disastrous tendency. "An old man cavorting around like a two-year-old"—well I should remark—and more so. What an old man under the influence of frog serum would do would not look well in print. So I will not describe his stunts. And for the benefit of Brother Abbott and others who wanted their turn I stopped the manufacture and sale of these sera, and I will prosecute to the full extent of the law any male or female who undertakes the sale of these sera.

Is "Magnesia" the Cause of Chronic Disease?—Dr. John Aulde of Philadelphia (see February number of *The New York Medical Times*) says it is. If magnesia is the cause of chronic disease, is it not also the cause of acute disease, chronic disease being only a continuation of the acute?

Look out, Brother Abbott, this is an effort to knock "autointoxication" off the Christmas tree—especially the intestinal part of the program. "Alkalescence" has an alkaloid sound, but the two will not jingle. I am acquainted with a doctor who gives as a cause of all disease, blood poison. Brother Aulde goes him one better and names the element in the blood which does the mischief. Let me here suggest a plan by which Brother Abbott may escape this predicament—viz.:

Yes, magnesia infiltration caused auto-intoxication, but the hair of the dog is good for the bite—so for the trouble caused by magnesia infiltration give magnesia. Isn't that logic?

Brother "Square Deal" Abbott, face the music, and what you lack in dancing make it up in turning around.

Profundity.—This faculty is one I have always dreaded, and in order to keep as far away from it as possible I have cultivated the habit of looking at the ridiculous side

of any and all questions, and I find that my side is easier of comprehension. Profound thinkers have much more glory and money than I have, but they do not have half as much fun—that is, real pleasure. Prof. Aulde will get glory out of his discovery and possibly some money, but he cannot enjoy the side-splitting laugh which comes to me when I read such articles. "Amber beads," for croup, eh? Amber beads around the neck. Destroying magnesia infiltration, eh! Go to, now, Brother Aulde, you cannot poke that down a Missourian. Your discovery would probably have passed muster if you had left off treatment, and for fear I spoil this squib, I close.

W. P. HOWLE.

Charleston, Mo.

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Life is a serious matter, and medicine the most serious part of it, nevertheless it would be better for humanity if a good many more would cultivate Dr. Howle's suggestion to look on the humorous side of things. The world never has too many laughs, unless it laughs at truth, which is not amusement but depravity.

Dr. Howle mixes up two totally different propositions: the keeping of medicine, and their administration. Most patent medicines do not keep well in solution; they deteriorate from the decomposition of the alkaloids and the menstruum employed, so that the actual strength of the remedy is often a sort of a guess. They keep forever when made into granules. If these granules are not made sufficiently hard they are likely to break up, and instead of granules or tablets the doctor finds a lot of amorphous detritus in his bottle which it is impossible for him to use.

The administration of the granules is another matter. They are not intended to be administered always in the solid form; they may be dropped into a cup or glass of water, the quantity being carefully measured so as to have the dose accurate. Only enough should be left to last until the next visit. In that way you get all the advantages of fluid administration without the disadvantages of fluid preservation. However, when given in solid form the granules are invariably active. This fact, to the best of our knowledge, has never been questioned. We have granules in our possession which were made fifteen years ago and they are today as promptly efficient, apparently, as the day they were made.

In regard to the statement that magnesium is poisonous, the main difficulty is that it isn't true. There is not another remedy on the face of this globe which is quite so common as epsom salt, and when one says that epsom salt exerts a poisonous action when given by mouth, he says what every man and woman of average comprehension knows to be untrue. When it is injected into the blood, that is another matter altogether, but people as a rule don't take the chemical in that way.

Dr. P. W. Pearsall, in front of his home at Kalkaska, Mich.

Guaiacol when rubbed into the skin is a tremendously powerful antipyretic; taken by the stomach it is nothing of the sort. Apomorphine injected hypodermically is the most effective of emetics; taken into the

stomach, however, it simply increases the secretion of the respiratory mucous membrane without causing emesis, even when given in doses of 1-4 grain. These things are too well known to require stating. More power to you, Dr. Howle. Stick to your last, and to your common-sense views of matters in general.—ED.]

CORSETS FROM A SURGICAL STANDPOINT

Corsets are an essential in women's dress, and their selection should be gauged by their ability to fulfil three requirements, namely:

1. Construction on proper mechanical and physiological principles.
2. Ease of application and readjustment.
3. Style and appearance.

While it is undoubtedly true that the average woman will reverse the relative importance of these three essentials in making a selection, it is therefore imperative that the garment appealing to the customer from the standpoint of style and appearance shall also contain the other essentials.

A corset properly constructed and adjusted instead of being a hindrance to proper freedom and movement or a menace to health is not only a decided advantage, but is of great aid in correcting malformations of the figure or displacement of viscera, and by such correction of abnormal conditions acts as a positive therapeutic agent of great value.

A woman should be no more conscious of her corset than she is of her shoe or any other part of her attire. This unconsciousness of a garment, which is of very necessity, as a result of its construction, a more or less rigid and inflexible part of her outer self, can be attained only by a corset which is correct physiologically and mechanically.

While it is true that minor changes are made to correspond to the vagaries of fashion, no deviation is ever made from the correct mechanical principle involved in its construction. The corset must be made to fit the figure, not the figure to fit the corset. This does not mean that the errors of position or figure, for which a woman herself is responsible as a result of habit, are to be condoned or allowance made for them in fitting the garment, but that these conditions are corrected with the wearing of the proper corset.

A corset may be considered, elementally, as consisting of two planes, an anterior and a posterior, which are approximated by the action of laces. Considering the corset as a part of the figure of a woman, and constructed to follow as closely as possible the mechanical features of the human frame, it will be apparent that there must be a rigid, intact portion corresponding to the practically immovable dorsal spine, which gives support to all the structures in front through muscles, ligaments and peritoneum attached to it. Thus the dorsal portion of the corset must serve as the point from which the necessary support is given to the front of the garment

In a front-laced corset, alone, these mechanical features are logically and consistently worked out to the comfort, convenience and satisfaction of the wearer. From the very construction of a back-lace corset, which is at variance with the principles outlined above, it is evident that garments so constructed are lacking in some of the three essential features which are first principles. Add to these virtues those of appearance, style and ease of application and the desirability of a front-laced corset is obvious.

The use of a proper corset from a surgical standpoint may be considered under three heads, viz.:

1. For deformities of the bony skeleton.
2. For support of weakened muscles or ligaments.
3. For postoperative support.

While it will hardly be claimed that the corset can take the place of a plaster cast in spinal affections, it is true that it may very appropriately follow up such treatment when a less-rigid support is demanded. The solid back of the garment affords just the degree of stability needed and the front lacing allows of proper adjustment as to location and pressure.

In scoliosis, with much deformity, the corset is most valuable from the improvement it is possible to obtain in the figure of the wearer. Pads can be so arranged by a properly qualified corsetière, under the suggestion or personal supervision of the surgeon, that even a very decided malformation may be completely overcome. After once having been properly fitted it is easy for the wearer herself to apply the garment and to regulate the tension by the front lacing.

Large, fat, flabby and pendulous abdomens are admirably taken care of with the minimum of effort and discomfort on the part of the patient. The corset should be applied with the laces loose, and after the steels have been fastened together and the garment properly laced, the necessary traction to confine the redundant tissue may be made by means of the lacing. It will be apparent that a much more satisfactory adjustment can be made than with a back-laced corset when the garment must be "set" by guess, and by wriggling, twisting and squirming the unfortunate woman, often with outside aid, finally encases herself in a support which does not equally distribute the superfluous tissue.

An attempt has been made by certain manufacturers to incorporate this great advantage of the front-laced type by the addition of socalled reducing straps to the back-laced corset, and while such a contrivance may be of a certain advantage, it cannot produce an adjustment which is perfectly satisfactory.

In postpartum conditions, when the anterior abdominal muscles are necessarily relaxed and when support and aid are imperative, the front-laced garment possesses distinctive advantages. By starting the process of lacing from the bottom it is possible to support the muscles, ligaments and viscera properly without danger of displacement from undue pressure.

Nephroptosis and the distressing symptoms often resulting therefrom is greatly relieved, and the symptoms are made almost, if not quite, to disappear by the front-lace corset properly fitted with the addition of a pad to produce support where needed. It is possible to do infinitely more with such a contrivance than can be accomplished by the use of bands. The patient should be instructed in regard to the proper application of the garment, which should be put on before rising, thus preventing the possibility of a strangulation. A slight elevation of the hips by means of a pillow will, in extreme cases, make the adjustment and application of the corset of greater value. In this position gravity aids in keeping the kidney in place. The patient should be cautioned against standing before applying the garment, for the jar incident to an assumption of the erect position may be sufficient to displace the organ, and the application of the corset and pad with the kidney displaced may do great damage.

Gastroptosis and enteroptosis with their accompanying symptoms, pain, dragging-down sensation, and gas formation, are amenable to the same relief from the same source. In these conditions also the properly adjusted pad securely fastened to the corset, to avoid the possibility of its being displaced, has been found of great value to the patient and an aid to the surgeon in the handling of the case.

It is of course understood that these measures can only be palliative at best, but there are many cases which from one reason or another are inoperable and in which some means of relief is therefore imperatively demanded. In these cases, as in nephroptosis the corset should be applied while the patient is in the dorsal position, which is easily accomplished in a front-laced garment.

Umbilical hernia is greatly relieved, and if not too extensive may be indefinitely supported by the corset and pad. As this condition is usually found with large, fleshy abdomens, what has been said under that head will apply here.

Displacements of pelvic viscera, while not directly affected by the corset, are nevertheless indirectly so either favorably or unfavorably. The disrepute in which the corset was formerly held by physiologists was due almost entirely to the wrong use of garments constructed on wrong principles.

A corset constructed and applied as in the old style could not but be a positive menace to health and a detriment in every way. Its hour-glass construction of the waist, pushing the soft, yielding abdominal organs both up and down, thus producing injurious pressure on heart and lungs and on bladder and uterus (the latter pressure aided and augmented by the down-pull of tense garters) was truly an instrument of torture. Not only was it injurious to health but it failed to give grace, beauty and symmetry to the form and deserved to be discontinued.

Compare such a contrivance with a garment which not only molds, preserves and intensifies the natural beauty of the female form but is absolutely correct mechanically and physiologically, supporting the abdominal contents and lifting all pressure from the pelvic organs, allowing proper expansion for the lungs and free action for the heart. Such a garment cannot possibly be a harm but is of positive virtue and benefit.

In postoperative cases, when a slight support is needed for the incision and the surrounding tissues, a properly fitted corset leaves nothing to be desired. After any operation the muscles and ligaments are more or less relaxed and flabby, due to enforced lack of exercise, restricted diet and anemia. Add to this the weakness of the incision with newly uniting tissues, and some support is imperative. Most women will experience a sensation of comfort and confidence in assuming a corset at this time, and it will serve a useful purpose as well.

In conclusion we might summarize as follows:

First. The corset is a necessary article and if properly constructed is a benefit from a standpoint of health and appearance of the wearer.

Second. Proper construction depends upon the application of the principle upon which the human figure is built, i. e., a rigid, firm back from which as a support the anterior portion is flexible and easily adapted to change of position.

Third. A front-lace corset embodies these features as well as those of ease, of application and readjustment.

Fourth. A corset may be of great aid to the surgeon when applied with intelligence and proper appreciation of its principle of construction and the application of that principle to pathological conditions.

HEAVY BABES; ALSO HIGH TEMPERATURES

I notice that Dr. Evans calls me down, because I referred to 17-pound children as "obstetric fancies." Now, Doctor, my skepticism of the reports of such prodigies which I continually hear is not dogmatic but practical. I doubt them, not because they upset decisions, but because of the sources from which they come. I find, in talking to almost any group of women, that in their very limited experience they report wonders which we, with hundreds and possibly thousands of cases, are unable to verify.

If, however, my statement implied that such cases never had or will exist, I willingly make correction. In Dr. Evans' case I have no reason to dispute his figures. He was there, I was not. But the tendency among most patients to believe the marvelous and absurd is so strong that their statements are open to grave doubt.

We have parallel instances in reports of hyperpyrexia. I think we have fairly well authenticated temperature as high as 111 degrees. Still, if someone were to tell me that he had observed in a patient a temperature of even 112 degrees, I should consider the statement as probably the result of an error of observation or of an unreliable instrument.

A medical friend once asked me to see a case of puerperal infection. The doctor had found a fever of 110°F., and had given a bad prognosis. One hour afterward the thermometer registered about 102°F., with no evidence of any special trouble. My friend was a conscientious observer and insisted that his figure was correct. From the collateral evidence, however, I am convinced that it was not.

Then, if such discrepancies creep into medical observations, what value can we place upon even conscientious lay testimony?

H. O. CARRINGTON.

New York, N. Y

ALBUMINURIC BRONCHITIS

Dr. Em. Novel (*Gaz. des Hop.* for Feb. 10, 1910) describes a case of bronchitis which failed to yield to the ordinary treatment of the affection. He finally had the urine examined and found it full of albumin, which explained the nonimprovement. The author calls attention to the importance of examining the urine in obstinate bronchitis, and of correcting a faulty renal function if this is present.

UNTOWARD ACTION OF ACONITINE IN PNEUMONIA

In the following we wish to report some observations in regard to the untoward effects of aconitine in the case of a boy 8 years of age, the subject of lobar pneumonia, or, as we believe, appendicular pneumonia. After prescribing aconitine for a number of years, this was the first time in our experience that toxic effects were noted. Failure to secure proper "cleaning out and cleaning up" were factors in the early part of the treatment, owing to negligence and opposition on the part of the parents.

The clinical features were high fever and absence of cough and expectoration until the third week. The patient was seen daily. The dosimetric trinity was administered according to Shaller's rule, and the aconitine given for from twenty-four to forty-eight hours, and then discontinued for the same length of time. On the tenth day the evidence of toxic action was very pronounced, which however completely disappeared in twenty-four hours on discontinuing the remedy. We believe that this would have been averted had proper intestinal action and clinical asepsis been secured early in the course of the disease.

Unless intestinal elimination and asepsis can be secured and maintained there must always be uncertainty in the action of aconitine, and danger of cumulation and poisoning systemically.

PENNEBAKER AND TRIPP.

Harrodsburg, Ky.

[Toxic action from aconitine is so rarely seen or at least reported, that a letter like this one has become almost a curiosity. When such a report does come in we always suspect either some idiosyncrasy or that the symptoms are due, not to the aconitine, but to some trouble inherent in the disease. Of course this remedy should be given only with extreme caution during depressed states. When the bowels are inactive aconitine usually is less likely to be absorbed and therefore less active, but our friend's suggestion that there is danger of cumulation in such instances deserves careful consideration. Who has had a similar experience?—ED.]

THE USE OF FATS IN TUBERCULOSIS

The following article is a very full abstract from Dr. Louis C. Rouglin's paper which appeared in the Atlanta *Journal-Record of Medicine*. We consider the subject of feeding and nutrition in tuberculosis of sufficient interest to quote copiously from the original.

"The attempt of many physicians to promote an increase in weight in tuberculous patients by an indiscriminate process of stuffing is just as erroneous and unscientific as is the insisting on certain kinds of foods to the exclusion of others as a matter of routine. From my personal experience, I am still convinced that I was correct in advocating before the American Tuberculosis League more than five years ago, that in regard to diet, 'each individual case must be separately studied, and diet prescribed to suit the case. It is far better to let a patient have a varied diet of nutritious character which he can assimilate, than to stuff him indiscriminately with a restricted regimen of diet.'

"We must always bear in mind that the relative proportion of ingested fats, proteids

and carbohydrates per kilo of body-weight has no invariable relation to the nourishment of the individual, that is, the caloric value of the food eaten by the patient is not a criterion of the caloric energy imparted through the process of digestion and assimilation, therefore, in view of the various functional and organic changes so common to tuberculous patients, it becomes at once apparent that the important diet is not so much the definite quantity of food, nor the relative proportion of its ingredients, but rather the completeness of its subsequent assimilation and the reduction of its strain upon digestion.

"Fats meet this condition most admirably, as by their use we can obtain more than double the value of energy producers than from either the proteids or carbohydrates, its by-products are entirely harmless to the organs of excretion, and their presence in the circulation are less deleterious than that of by-products of proteid oxidation, and when a suitable form is used, fats are easily digested and readily assimilated.

"The demand for an excess of fat is in no disease more pronounced than in tuberculosis, since it manifests itself by the wasting of the subcutaneous fat, and long before any scientific investigations had been made, the favorable results from its use had led clinicians to believe that it exerted a specific action in this disease, especially in the form of codliver oil, but unfortunately its nauseating character, its difficulty of digestion, and its consequent disturbing and deleterious effect upon the digestive organs had led many to abandon its use.

"In the cotton-seed-oil emulsion we have all these features eliminated. When given properly, it is borne by the most delicate stomach, and in my experience at Pine Ridge Sanitarium, I have not yet had a patient who under a proper administration experienced any difficulty in taking it, in fact, most patients grow to like it, and its superiority over other preparations is evidenced by many cases in which other oils and emulsions had become repulsive, but where the cotton-seed oil was readily taken with a rapid improvement in digestion and nutrition as evidenced by a decided gain in weight."

The author presents the histories of six interesting cases, which are cited not as an exception, but as representing only a few from a vast number of similar cases, where the superiority and value of cotton-seed oil was manifested from the very beginning. He concludes that if we agree with the universal statement of all authorities on tuberculosis, that the most reliable guide of the patient's improvement is his gain in weight, we possess in cotton-seed-oil emulsion an agent of the utmost and vital importance in the management and treatment of this disease.

MAGNESIUM-SULPHATE DRESSINGS FOR SPRAINS AND OTHER INFLAMMATORY CONDITIONS

I notice that in the January number of CLINICAL MEDICINE you ask for reports on the use of magnesium sulphate in the treatment of inflammatory conditions. In a sawmill practice of four years I have had any number of sprains and bruises and similar lesions to treat, from the slightest to the severest forms.

My treatment for such injuries, where the skin is not broken or only slightly so, is to dissolve two heaping tablespoonfuls of epsom salt in one quart of water as hot as can be borne comfortably, and to apply thick compresses wrung out of the solution, changing for a fresh one as soon as this one cools, and I keep this up for thirty or forty minutes, three to five times a day, or as often as pain returns. I find that under this treatment the pain is relieved, the swelling is reduced, and the patient is up and about and ready for work much sooner than under the old way of treating such injuries.

I have used the same-strength solution as above, but cold, for burns of the first and second degrees, not however with any great amount of satisfaction.

I am a strong believer in the jugulation of disease by active therapeutic measures, and have some interesting experiences

with alkaloids that I may report later. Success to you and your work.

S. D. MOTLEY.

Hollins, Ala.

[Your experience with solution of magnesium sulphate is identical with that of many physicians who write to us. The present writer always insists on having the water not only as hot as can be borne with comfort but as hot as can be borne at all—and then a little hotter. I find that in this way I get still better results.—ED.]

MAGNESIUM-SULPHATE: A PROTEAN REMEDY

I was a little amused when reading the January issue of CLINICAL MEDICINE. There, on page 107, I observed your request for letters on any one or more of some half-dozen troubles, and then on turning the leaf was confronted by that article on epsom salt.

Whence the amusement? Well, because that very chemical is the principal remedy for treating more than one of that list of disorders mentioned.

Thus for grip I give calmel, 1-10 grain for four or five doses, followed by magnesium sulphate and then the sulphocarbolates, after which I prescribe such other internal medication as the individual case may seem to require. But I never neglect to order an epsom-salt bath at night, one ounce to the pint. This bath is repeated as seems advisable.

So in rheumatism, the epsom-salt bath will accomplish more, in my hands, in a curative way than any or all other remedies. In this case I add 10 drops of oil of wintergreen to the pint. If you have never tried it you will be surprised at the results if you do. Just ask the nurse to let the water stand for a time after the bath and then note the sediment. Many times I have been greeted with "Where does that all come from? I thought I was clean." The sediment, a reddish brown granular-appearing deposit, will be found as long as the rheumatism remains, lessening as the condition improves.

"Cold in the chest"—threatened pneumonia—too, is benefited markedly by sponging, particularly the chest, with this solution of magnesium sulphate and putting a compress wet with it over the lungs and covering with dry flannel. In lung troubles, however, oil of eucalyptus is to be used instead of that of gaultheria.

For erysipelas this same solution excels, in my hands, any or all other applications either with or without the addition of carbolic acid, say 10 drops.

Cold in the head—coryza? Why, the coryza tablet (containing atropine, aconitine, morphine and calomel) of course—nothing better. The magnesium sulphate, properly administered, in addition to the granules, will do more for me than almost any other medicament.

This is a sort of meandering epistle, not much to it; but I felt like it, and *ecce litera*.

Let us hear more about chromium sulphate.

S. P. TRACY.

Walkerton, Ind.

[Wish more of the "family" would give "meandering" notes like these on therapeutic subjects!—ED.]

THE STERMAN THEORY REGARDING TETANUS

I note with pleasure and satisfaction the report of six cases of recovery in patients treated for tetanus by lumbar puncture and the injection of a 25-percent magnesium sulphate solution after withdrawal of a sufficient quantity of cerebrospinal fluid. It is pertinent in this connection to inquire how much gas was allowed to escape with these withdrawals and also pertinent to note that the tappings were in some cases frequently repeated; also to inquire, in view of my recent theory of gas formation, whether results would not have been just as satisfactory without the magnesium sulphate.

Also, I would inquire whether the sole action of said salt was not a purely chemical one, in neutralizing the gas. The Sterman theory, as it has been recently called, in re-

gard to the formation of gas within and around the cerebrospinal structures, is not a theory—it is an established fact and one of paramount importance, revolutionizing the pathology and treatment of tetanus. Although the technic remains to be perfected it will be the basis of future relief and therapeutic satisfaction.

WILBUR F. STERMAN.

Winterset, Ia.

THE OTHER SIDE OF SURGICAL FEE-SPLITTING

An anonymous writer in *The Illinois Medical Journal* deplores the fact that some specialists, notably surgeons, give a part of the fees they receive to the family doctor in return for his loss of time, more or less trouble and serious responsibility in accompanying the patients to the city, assisting in the operative work, etc.; yet the writer enquires how it is that his competitors, who condemn "division of the fee" by specialists, in the discussion of economics at the local medical society, grow rich while he remains poor.

The answer involves a curious development of the relation between the general practician and the modern specialist. Time was when the family doctor, bowed down with the accumulated weight of years and professional dignity, took his patients to the "great city specialist" for treatment or operation, expecting nothing, getting nothing but the "thanks" of the grateful patient—if everything turned out well; or receiving a "cussing" or worse if results were not satisfactory.

All this trouble, anxiety, responsibility and loss of valuable time and money were regarded as a part of his "professional duty." To expect or accept a part of the fee whould be unethical, even if the patient knew that the fee would include something for his services. The "leaders" (chiefly specialists, be it noted) assured him that such a division of the fee would be "unethical business"—with no suggestion of which our "great profession" should be tainted. And in his old age this excellent family doctor was supported by his daughters' salaries as teachers, may be, or the like.

But later some of these physicians "got wise"—they thought they should have at least a part of the fee in return for all they were doing; and they demanded (and received) some portion of the sum charged by the specialist, usually without letting the patient know of the transaction. Herein arose a possibility for "graft"—and strange to say, the "howlers" against "division of the fee" under any and all circumstances have "played into the hands of the grafters." The great and good leaders of ethical conduct, the above-suspicion molders of professional sentiment, the men who would not divide the fee under any circumstances (if there were a possibility of being found out) have done much to help the "honest general practician" to the latest phase of professional deception.

The first effect of the opposition to and condemnation of division of the fee between surgeon and family doctor has been to lead the latter to try to do operative work for which he is ill fitted. Every community today has socalled "surgeons" attempting to do major operations which would tax the skill and knowledge of a Keen or a Mayo.

It is a burning shame which few men have the courage to condemn; it is increasing, and—as a terrible consequence—these ambitious amateur surgeons are performing many needless operations, for the prestige and the fee! Rather than sacrifice the money to a surgeon who will not "divide" they needlessly endanger the lives of their patients in the first instance, and make little less than criminal demands for their work in the second. There is no use trying to dodge the issue; these are facts, and they cannot be evaded.

The second effect has been to induce the average doctor to "hang on" to his chronic cases, such as gallstone, gastric ulcer, recurrent appendicitis, gonorrheal salpingitis, and even cancer of the uterus, to get as much money as possible out of them before turning the patients over to a specialist for long-needed operations. This is not criminal,

but it can hardly be said to be strictly ethical. He who would say it is better than taking the patients to operators who would divide the fee has a strange system of moral philosophy.

But the third result is the "corker." It is the source of revenue which so puzzles the anxious enquirer of the official journal of the state medical society. The member of the affiliated county society under no circumstances would take a patient to a city specialist who would divide a fee—oh no! That would be unprofessional, "unethical."

So what does this stickler for the proprieties do when he gets a surgical case which he dare not operate on himself? He tells the patient he will get a competent operator from the city to operate in the home, or more often the little local hospital poorly equipped and worse managed, for a good fat fee—usually $300, and frequently far more. This he collects. Then he writes to two or three surgeons saying he has a patient in moderate circumstances who needs operation, and will the surgeon please come down and operate "as a special favor to him" for $100 and expenses? And the surgeon, being an accommodating sort of fellow (one of the three written to is sure to be) readily drops into the little game and seldom dreams that he is being "flim-flammed."

Not a common thing? It is becoming as common as flowers in June. This sort of practice has spread from Augusta to Ysleta, from Atlanta to Yuba Dam. And the worst of it is that these very men are the ones who stand up in their local societies and most earnestly condemn the surgeon who advocates the rendering of a bill to the patient with the statement that it covers the fee both of operator and family doctor, because "division of the fee is unethical." Unethical indeed! It seems to depend, however, upon who does the dividing. And the funny part of the business is that the very men who have most bitterly condemned division of the fee, heretofore, are the very ones who have done most to build up this rather demoralizing practice and who are now being made the victims of the very men who have been their staunchest supporters.

EMORY LANPHEAR.

St. Louis, Mo.

THE OLD TIN BUCKET

By T. C. Buxton, M. D.

With what anguish of mind I remember my childhood,
Recalled in the light of a knowledge since gained;
The malarious farm, the wet, fungus-grown wildwood,
The chills then contracted that since have remained;
The scum-covered duck-pond, the pig-sty close by it,
The ditch where sour-smelling house drainage fell,
The damp, shaded dwelling, the foul barn-yard by it,
But worse than all else was that horrible well.
'Twas an old tin bucket,
The old battered bucket,
The rust-covered bucket
Which I drew from the well.

Just think of the germs, the vessel which lifted
The water I drank in the days called to mind,
E'er I knew what professors and scientists gifted
In the water of wells by analysis find;
The rotten wood fiber, the oxide of iron,
The algæ, the frog of unusual size,
The water impure as the verses of Byron,
Are things to remember with tears in my eyes.
'Twas an old tin bucket,
The old battered bucket,
The rust-covered bucket
Which I drew from the well.

And to tell the sad truth, though I shudder to think it,
I considered that water uncommonly clear,
And often at noon when I went there to drink it,
I enjoyed it as much as I now enjoy beer.
How ardent I seized it with hands that were grimy
And quick to the mud-covered bottom it fell,
Then with the nitrates and nitrites all slimy,
With matter organic it rose from the well.
'Twas an old tin bucket,
The old battered bucket,
The rust-covered bucket
Which I drew from the well.

Oh, had I but realized in time to avoid it
The dangers that lurk in the pestilent draft!
I have tested for fungi, and often destroyed them
With potassium permanganate, e'er I quaft;
Or perhaps I have boiled it, and afterwards strained it
Through filters of charcoal and gravel combined;
I often distilled it, condensed and regained it
In portable form with its filth left behind.
'Twas an old tin bucket,
The old battered bucket,
The rust-covered bucket
Which I drew from the well.

How little I knew of the dread typhoid fever
That lurked in the water I ventured to drink;
But since I became a devoted believer
In teachings of science, I shudder to think;
Though now far removed from the scenes I'm describing,
I gag at the thought of that horrible well.
'Twas an old tin bucket,
The old battered bucket,
The rust-covered bucket
Which I drew from the well.

CHROMIUM SULPHATE IN ENLARGED PROSTATE

I would like to ask readers of *The Council* who have had any experience with the above remedy to report their success or failures with the same. I have been using the remedy less than a year, so it is comparatively new to me, yet in the prostatic troubles of old men I have had uniformly good results, and in some bad cases have been surprised as well as pleased at the benefits received in the short time of from one to two weeks, as the following case will show:

Mr. J. B. W., aged 73 years, applied to me for treatment after he had been the rounds. He was obliged to adopt the catheter-life for the past six months in order to obtain relief and to make life worth the living. Examination per rectum revealed a prostate as large as a walnut. The patient was constipated and discouraged. He was put on chromium sulphate, 4-grain tablets four times a day, after each meal and at bedtime, the medicine to be taken with a glassful of water.

Considerable relief was obtained after one week of the above treatment. The dose was now increased to 8 grains three times a day, omitting the dose at bedtime. Strychnine sulphate, gr. 1-130, before each meal was added to the treatment at this time. The improvement was rapid from that on. As a result the catheter was laid aside within a space of two weeks, much to the joy of the patient and my own satisfaction.

This patient took the remedy for three months. The strychnine sulphate was stopped at the end of the first month. Examination revealed a prostate of very nearly normal size, no tenderness, sleep undisturbed, he having to arise only once to urinate and that along toward morning. I will say, in conclusion, that I believe we have a remedy of great value in chromium sulphate in prostatic troubles. I have not had any experience with this promising remedy except as above.

As stated in the beginning of this paper, I should like others to report through the columns of *The Medical Council* their results with chromium sulphate.

S. J. Ross.

Schultz, W. Va.

—

[We reprint this brief report from *The Medical Council*, January, 1910.—Ed.]

TO E. S. G.

On Reading "After Consulting Hours"

In the wetness of these showers in that land of bog and rain
I've a hunch your teeth were snappin' louder than a coon's refrain.
Yes, I'll bet you felt as rotten as my little revenue,
Or the mem'ry of these castles that we built in '92—
Built way back in '92,
Where the old cadaver grew.
Dost remember all the muscles that we learned in '92,
When we told our lessons through,
And so frequently we drew
Thunder from Old Senn and others as they passed us in review,
Back, way back in '92?

U-la-pal-a-ku-a—thunder! What's the use? I've got a twist
In my masseteric muscle which has caused my face to list.
Then, again, there's Kal-a-pele-pe—no, I didn't; I just thought
'Twas as well to ease the center of my speech so overwrought.
For I knew I hadn't ought
To so easily be caught
With the goods of other's markings that were never, never taught
In Old Rush, in '92.

With your "Chinks," and Japs, and quicksand, what a dismal land you're in:
Rain above and mud beneath you, ooze and slush that's mighty thin.
Come you back, E. S., and harbor once again where ice and snow
May upon your cheeks paint roses and relieve you of that woe
That you shouldered long ago,
Grap'ling with the leper's foe.

Ken you not the rush of footsteps and the swaying to and fro
In Old Rush, in '92?

MOSES ST. PETER.

Dumont, Ia.

THE AMERICAN JOURNAL OF PHYSIOLOGIC THERAPEUTICS

This is the latest aspirant for journalistic favor in Chicago, and inasmuch as it is to be edited by our friend Dr. Henry R. Harrower, already well known to many readers of this journal, we can safely promise that it will be thoroughly alive, filled to overflowing with bright original ideas, strictly up to the second, eminently practical, and as breezy in editorial tone as the editor himself.

The first number will probably appear about May 1. It will be published bimonthly and the subscription price will be $1.00 a year. Address The American Journal of Physiological Therapeutics, 72 Madison St., Chicago, Ill.

"OL' DOC LENT, AND OTHER POEMS"

Here is a book full of the kind of poetry that members of THE CLINIC "family" like. In other words the author is one of us. He writes of things with which we are acquainted and in which we are interested. His people are our people—we know them all—everyone of them, from "Ol' Doc" to "Uncle Hiram" or the "Editor of The Clarion." The same kindly touch and hearty human wit that makes us all love Riley breathes through everything Dr. Rose writes. Just to give a taste, here's "Ol' Doc Lent" himself:

OL' DOC LENT OF FROGMORE

They say that young Doc Morfoot is drivin' fit to bust;
An' Green, the homopathy, is raisin' quite a dust.
They're both of 'em nice fellers, so fur as I can see,
But ol' Doc Lent of Frogmore is good enough fer me.

I never could get used to these doctors nowadays,
With all their queer inventions an' their new-fangled ways.
Doc says he doesn't need 'em; he's practised forty years
Without no patent dingus a-stickin' in his ears!

When Doc Lent comes to see you, he just hauls up a chair,
An' feels your pulse a minute an' sets a-starin' there,
His black eyes borin' through you; there ain't a single thing
A-goin' on inside you that he don't see, by jing!

Some folks that's kind o' dainty, don't cotton to him much,
Because he smokes a corncob, an' chews to beat the Dutch,
An' don't use no palavar, ner wastes a lot o' breath
When layin' out his program fer circumventin' death.

There was Daurius Thompson, down on the Gordon swamp.
Malary an' chill-fever was meat an' drink to Tomp,
But when pneumony got him, he caved right in, an' soon
Was ravin' like all Bedlam, an' whoopin' like a loon.

They sent fer Green, who left him some little sugar pills,
That wouldn't feeze a chipmunk; an' then they sent fer Mills;
But Mills was drunk, as usual, an' got lost on the way,
So then they took on Morfoot, an' kept him half a day.

At last they had a glim'ring of sense at Gordon's swamp,
An' ol' Doc Lent of Frogmore was gi'n a whack at Tomp.
Doc didn't putter 'round none, ner hem, ner haw, ner doubt,
But put Tomp on lobely—an' let him sweat it out!

Now Tomp is well as ever, an' tickled half to death;
A-drawin' in malary again with joyful breath—
A livin' advertisement! An' folks can rip an' tear,
An' cuss Doc, if they want to, but he cured Tomp fer fair.

Doc ain't so awful pious—he swears like all possest—
But there's a heart a-beatin' beneath his rusty vest.
An' I'll bet my suspenders that when his journey ends,
Saint Peter'll say, "Hello, Doc! Come in an meet your friends!"

That's only one of the fine things in the book. Of those in a more thoughtful vein I wish particularly to praise "The Microcosm," which is one of the finest poems I have read for many a day.

Every doctor should have the books written by doctors for doctors. If you haven't started such a library it is time that you did. Send to The Backbone Publishing Company, Ravenswood Station, Chi-

cago, for a copy of this book. Price in art cloth, $1.00; in de luxe flexible leather, $2.00.

CRACKS IN THE SKIN

Dr. Frank B. Kirby of Philadelphia says that he cured a case of painful "cracks" in the skin near the finger-nails and knuckles, so common during the winter months, by the administration of iron arsenate, gr. 1-67, three times daily. It was tried in this case only, and is offered to the "family" as a suggestion only, with the hope that others will try it out and report. Perhaps others will tell what they use for this troublesome condition. Who has the best idea for its treatment?

THE BACKBONE MONTHLY AGAIN

Have you subscribed yet for this little magazine? If you haven't done so, better send in your money now,—and not for yourself alone either. A dollar pays for three yearly subscriptions.

Here are some of the good things appearing in the current number:

"Work Out Your Think," by Snips.

"Pay Up—Keep Paid," by Chas. S. Moody.

"Waite and Eddy—Heroes of the Cherry Mine," by A. S. Burdick.

"The Deaf and Their Work-Problem," by Edward B. Nichie.

"Letters of a Baseball Fan to His Son," by S. D. Clough.

"Know Thyself," by W. T. Dowdall.

This is all good stuff, but we wish to call attention particularly to Mr. Nichie's article, which is an appeal for greater interest in the problems of the deaf, and that of Dr. Moody, which is a witty exposé of the deadbeat—the man who could pay the doctor if he would, but won't. This should be in the hands of every one of your patients.

There are also some fine original poems. For instance, Charles Eugene Banks writes on "Who Is My Brother?" Homer Clark Bennett on "Be a Booster," Walt Mason on "Bwana Tumbo" Robert Stephens on "Stand Up Right," L. W. Zochert on "The Power of Joy," etc. In the editorial department we talk about "The Other Fellow," "Reformed Millionaires," "Here's to Teddy," "The Bravest Thing I Ever Saw," etc.

While *The Backbone Monthly* is small it is a compressed tablet of palatable nerve—and you can use it in your business.

Address The Backbone Publishing Company, Ravenswood Station, Chicago.

How many?

SCIATICA: HOW TO TREAT IT

In a recent number of CLINICAL MEDICINE you ask for some "bulls-eyes." Here are a few from my experience.

Sciatica can be cured by giving sodium salicylate and acetanilid in doses sufficiently large and frequent to control the pain and fever. Codeine, or hyoscine, morphine and cactin may be added to the first few doses if the pain is very severe. No external applications are necessary, but to keep the friends busy, something may be done in this line. As soon as the pain ceases the patient is satisfied and so are the friends.

"Clean out, clean up and keep clean" is always in order. In all cases this has reference to the inside of the patient, as this is where the trouble lies. It's all right to keep the outside and surroundings clean, but the patient is sick on the inside, remember this. Then there are two things that can't stay in the same hide at the same time, and that is sciatica and acetanilid with sodium salicylate, when the latter is given in the proper doses and often enough. I hear the objection, "You will run his heart." In twenty-five years of practice and in many hundred cases treated, and all in practically the same manner, all have got well in from two to ten days; and by well I mean *well*—not partially cured.

I am just as successful with my typhoid cases. I cure them all, whether you believe this or not. I do the trick and do it every time. I have just dismissed two cases, cured. Many typhoid patients about town are dying, but not my cases. This may be too positive for a medical journal to give to its readers, as the doubting Thomases are

abroad in the land, but it's the truth all the same.

M. E. JOHNSON.

Pittsburg, Kan.

[Twenty-five years of practice and many hundred cases of sciatica successfully treated form a good record, Doctor; but it strikes us that you could get the same results if you omitted the acetanilid. You have been singularly fortunate—and skilful—in your typhoid-fever-cases.—ED.]

THE TREATMENT OF FRACTURE OF THE PATELLA

In the August, 1909, number of *Surgery, Gynecology and Obstetrics*, Dr. Aimé Paul Heineck tabulates and analyzes 1100 cases of fracture of the patella treated by the open method. He prefers open operation, in this condition, to the subcutaneous methods, and advises its adoption, because the subcutaneous and percutaneous methods do not enable the surgeon to coapt accurately the fractured fragments, nor to freshen the fractured surfaces; they do not insure against faulty union, do not permit the cleansing of the synovial cavity, nor the repair of tears on the capsule and of lacerations in the aponeurotic expansions of the vasti. Finally, the subcutaneous and percutaneous methods, while creating openings for infection, do not permit proper drainage.

By the open method an osseous union may be obtained, which is hardly ever the case in nonoperative treatment. The functional recovery is more rapid and also more certain because the open method permits the removal of everything that might delay or prevent an osseous union.

The open method is not indicated, or is contraindicated in persons afflicted with diabetes, advanced tuberculosis, well-defined renal, cardiac, hepatic, or malignant neoplastic diseases; in closed longitudinal fractures with no or only slight lateral displacement, in subaponeurotic or incomplete fractures, in fractures with only slight separation of the parts.

The advantages of the open method in cases not covered by the contraindications are demonstrated at length in the paper, to which we must refer those especially interested. There they will also find detailed indications for the treatment and other particulars which cannot be included in a short abstract.

It has been the author's practice, in the management of fresh subcutaneous fractures of the patella, to defer operation for from three to five days after the injury, being guided somewhat by the patient's general condition and also by the evidences of local trauma. The congestion and inflammatory exudate consecutive to the injury have usually, by this time, begun to retrogress.

TREATING COLDS, COUGH AND GRIP

Your request for something "containing only alkaloids of thought" upon the subject of winter coughs, colds, grip, etc., covers quite a subject—and haven't you asked for something that requires the best that a fellow is able to dig up? Acute coryza, grip, winter coughs and colds are very prevalent in this section of the country during the winter months and seem to resist treatment with a persistency that is out of all proportion to their severity.

During the premonitory stages of an acute coryza I have found that the frequent inhalation of the vapor of a 40-percent solution of formalin (a few ounces being carried in the pocket) tends to lessen the congestion and relieve the "stuffy, stopped-up feeling" of the nasal passages, producing, of course, quite a free discharge of mucus. By way of treatment I give, at the same time, broken doses of calomel and podophyllin hourly, followed by laxative salines to move the bowels freely. Then the patient receives quinine in 2- or 3-grain doses every two or three hours, together with atropine and aconitine, adding small doses of codeine or morphine if desirable to relieve excessive cough. The atropine and aconitine are to be given hourly for four or five hours, then every three or four hours. Should the ton-

sils become swollen, congested and painful, ice-water gargles usually relieve this condition. Gargles or sprays containing thymol, menthol, eucalyptol, camphor, myrrh, etc., singly or in combination, may be used to advantage. Alkaline nasal douches or sprays (with a little glycerin) frequently relieve the unpleasant sensation in the nasal passages.

Grip in this section of the country is usually complicated by malaria, or maybe it is malaria complicated by the grip; anyway, we have both the malaria and grip to treat in the same patient and at the same time. Free purgation with calomel and podophyllin followed by saline laxatives is very important. Further treatment consists of quinine in goodly doses (from 5 to 6 grains every two hours) and aspirin with heroin or codeine to relieve the headache and the other pains. Aconitine, digitalin and strychnine arsenate are given hourly to reduce the temperature if very high; strychnine, atropine and digitalin if cardiac distress is present. Alcoholic stimulation in small quantities undoubtedly does good, especially in the old. Rest in bed is, of course, imperative.

Convalescence from grip usually is prolonged, no doubt owing to the malarial element; iron, quinine, arsenic, nuclein, strychnine, nourishing food, keeping the bowels active by occasional doses of calomel and podophyllin and laxative salines, the sulphocarbolates for intestinal antisepsis seem to give the best results during this stage of the disease. A torpid liver and enlarged and tender spleen are met with in ninety percent of the cases of whatever character, and frequently it not only requires one but several "shots at the liver" with calomel and podophyllin to get the desired results. Inunctions of mercurial ointment over the enlarged and tender liver and spleen work wonders in some cases, while doing good in all of them. The intense headache, backache, and the other pains yield best to aspirin in 5- to 15-grain doses, usually combined with heroin or codeine. The depressing after-effects following acetanilid and phenacetin are not noticed when aspirin is used. The hacking cough frequently met with in convalescence from grip is best treated with some form of iodine, such as calcium iodide or syrup of hydriodic acid. Emetin, atropine and cicutine, sometimes combined with hyoscyamine or morphine, in combinations and proportioned according to indications of each individual case, will do good.

R. K. OGILVIE.

Blodgett, Mo.

—

[Dr. Ogilvie might have talked longer, but he could not have *said* more than he has said in these splendidly written few paragraphs. He seems to have covered the field as thoroughly as could be done, briefly and concisely. Thank you, doctor, that is the kind of paper that counts and helps. Come again.—ED.]

TO CHECK THE SECRETION OF MILK

According to recent studies at the Johns Hopkins Hospital the secretion of milk may be checked by the administration of 20 grains of potassium acetate, in water, three times daily. Since this treatment was introduced there have been no abscesses of the breast at the Baltimore institution. The method was suggested by Lewis of Westerly, Rhode Island, who has used it for twenty years.

NUCLEIN IN RHEUMATISM

Dr. F. E. Hufnail of Minneapolis, Minnesota, writes that he uses nuclein in all his cases of acute articular rheumatism. It is given in good-sized doses, every three hours —four times during the first day. The following day he gives aspirin, 15 grains after meals and at bedtime, following each dose with a full glass of water. Thus he alternates the nuclein and the aspirin from day to day, of course thoroughly cleaning the bowels. Cold is applied to the swollen joints, using flannel cloths wrung out of ice-water. In four days the patients are able to sit up. The doctor has used both nuclein and protonuclein, but prefers the former.

Esperanto for Physicians

PASSIVE VOICE

In like manner the passive voice is formed by the use of the verb *esti* followed by the passive participles.

Present

Mi, ci (*vi*) *li* *ŝi, ĝi, oni* *ni, vi, ili*	*estas* am, art, are	*ĵrapata*, being struck *ĵrapita*, having been struck (i. e., have been struck) *ĵrapota*, about to be struck

Past

Mi, ci (or *vi*) *Li, ŝi, ĝi, oni* *Ni, vi, ili*	*estis* was, wert, were	*ĵrapata*, being struck *ĵrapita*, having been struck (i. e , had been struck) *ĵrapota*, about to be struck

Future

Mi, ci (or *vi*) *Li, ŝi, ĝi, oni* *Ni, Vi, ili*	*estos* shall, shalt, will, wilt be	*ĵrapata*, being struck *ĵrapita*, having been struck (i. e., shall or will have been struck) *ĵrapota*, about to be struck

Conditional

(*Le*), *Mi, ci* (or *vi*) *Li, ŝi, ĝi*, or *oni* *Ni, vi, ili*	*estus* should or would be	*ĵrapata*, being struck *ĵrapita*, having been struck (i. e., had been struck) *ĵrapota*, about to be struck

The agent in a passive sentence in Esperanto is expressed by *de*, the instrument by *per*. Thus: *La operacio estas ĵarita dela ĥirurgiisto per malmultaj iloj*, "The operation was performed by the physician with (through) few instruments." This construction is, of course, excellent English, though somewhat archaic—"He was loved of God and man."

Other Uses of the Participles

As before stated, *the participles*, both active and passive, can be used as nouns by substituting the nominal terminal *o* for the adjectival *a*. This *makes possible a fine distinction* that in most languages has to be expressed by a periphrase. At a public meeting, for instance, "the speaker" may refer to the person speaking, to one who has spoken, or to the one about to speak, and we have to qualify the word accordingly to make it clear to which speaker we refer. But in Esperanto *la parolanto* is the speaker now speaking; *la parolinto*, the speaker who has already spoken, while *la parolonto* is the speaker about to speak. Similarly, in the passive voice, *la sendato* signifies the present messenger (person being sent); *la sendito*, the one who was formerly sent; *la sendoto*, the one about to be sent.

This is perhaps the place to *note a fine distinction* between the adjectival participle and the adjective formed directly from a root. In general terms the participle may be said to refer to an action, whereas the

direct adjective refers to an inherent quality. For example, *ĉarmi* is "to charm." From this we get the adjective *ĉarma* and the participle *ĉarmanta*, both corresponding to the English word "charming." Yet their significance is not identical. When we say "She is a charming woman," we refer to a permanent inherent quality, and the proper rendering would be *Si estas ĉarma virino.* In the sentence, however, "She is charming her guests with her singing," the reference is to a temporary action, and we should say, "*Si estas ĉarmanta siajn gastojn per sia kantado.* Indeed, it would be better to say in this sense, *Si nune ĉarmas siajn gastojn per sia kantado.* It is necessary to add some word like *nune*, "at present" to show that a specific action is meant; otherwise the significance might be, "she charms her guests when (ever) she sings."

We must also be careful in the translation of the English present participle used to signify a permanent quality, state, or occupation. Thus, take the three following phrases: "I saw the working man in the field," "I saw the man working in the field"—the last in its two possible meanings, viz.: "I saw the man who was working in the field," and "I saw that the man was working in the field." In Esperanto those differences are very clearly marked. In the first, we do not use the participle at all, but the termination signifying occupation: *Mi vidis la laboriston en la kampo.* In the second, the participle is attributive, and therefore agrees with its substantive in case: *Mi vidis la viron laborantan en la kampo.* In the third the participle is predicative, and is therefore in the nominative case: *Mi vidis la viron laboranta en la kampo.*

Finally we must point out the *adverbial use of the participle.* Thus, in the English sentence, "(while) going along the street I met the ambulance," "going along the street" refers to the subject of the sentence, I, and we therefore use the adverbial form of the participle from *lau-iri*, to go along, viz., *lauirante: Lauirante la straton mi vidis la ambulancon.* In English there may be some uncertainty whether it was I or the ambulance that was going along the street. In Esperanto no such confusion could occur, for in the latter case the adjectival participle would be used: *Lauirantan la straton mi vidis la ambulancon*, or better, *mi vidis la ambulancon lauirantan la straton.* The practice of inverting the order of words in English is of doubtful value and is apt to give rise to great ambiguity.

In English, moreover, we often have participial expressions introduced by the prepositions "by," "through," "in." Such participial expressions as, "By reading we learn," "Through having suffered we have become careful," "In operating we must exercise caution," are rendered in Esperanto by the adverbial form of the participle without any preposition; thus: *legante, ni lernas; suferinte, ni estas fariĝinta zorgemaj; operaciante, ni devas ekzerci singardemon.* This form, however, can be used only in reference to the subject of the main sentence. For instance, in the sentence, "The surgeon having operated, the attendants removed the patient," we cannot rightly say, *la ĥirurgiisto operaciinte, la malsanulistoj forportis la malsanulon,*" because "having operated" refers, not to the attendants, the subject of the main sentence, but to someone else. Here we must say, *post kiam la ĥirurgiisto operaciis, la malsanulistoj, etc.*, i. e., "after (when) the surgeon had operated, the attendants, etc." On the other hand, we can say: *operaciinte, la ĥirurgiisto foriris,*" "having operated, the surgeon went away," because here the participle does refer to the subject of the main statement, viz., the surgeon.

The adverbial form of the participle is used also when the sentence is impersonal, i. e., when there is no noun or pronoun for the subject of the sentence with which a participial adjective could agree in number and case. Thus: *Estas pluvante*, it is raining; *per la eksperimentoj de Plaut estas pruvite ke la kobravenend reakcio laŭ Much kaj Holzmann por diagnozoj celoj en psiĥiatro ne taŭgas*—"By the experiments of Plaut it has been proved (is having been proved) that the cobra venom reaction of (according to) Much and Holzmann for diagnostic purposes in psychiatry, is not suitable."

CLINICAL · MEDICINE
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PART III.—LESSON SEVEN

BRONCHITIS

THE ETIOLOGY OF BRONCHITIS

Acute bronchitis is probably the most frequent disease noted by the practician, averaging approximately ten to fifteen percent of all diseases. It is more frequent in cold, dusty and variable weather; and seventy-five percent of all cases occur in the months of December and April. While it is frequently a primary infection, it is also often secondary to, or a complication of measles, influenza, whooping-cough, typhoid fever, scarlet-fever, diphtheria, syphilis, tuberculosis, sepsis, etc.

The Cause of Bronchitis.—Various organisms cause this disease. Fifty-nine percent of all cases are due to the micrococcus catarrhalis. Next in frequency are found pneumococci, influenza bacilli, staphylococci, pneumobacilli of Friedlaender, and occasionally streptococci. The majority of cases show a mixed infection of one or more of the above organisms.

Predisposing causes are toxic effects of drugs, such as potassium iodide, mercury, tobacco, alcohol, etc.; mechanical irritation by dust, wool, stone, etc., in special trades, and also the excessive use of the voice, noted in public speakers. Bronchitis also very frequently appears as a complication in constitutional diseases, such as obesity, nephritis, gout, and in the cachectic conditions produced by diabetes, cancer and syphilis. It is further very frequent in persons suffering from venous stasis due to a mitral lesion. The disease is comparatively more frequent during the period of one-half to three years of age and also in the very old.

A chronic form of the disease is known as the "winter cough of the aged," and it occurs in practically all cases in which the patient has a chronic nephritis. This chronic nephritis must always be considered, as treatment directed to the relief of the bronchitis alone in these cases is usually of no avail.

Appearance of the Sputum.—The sputum at first is slight in amount, difficult to raise and usually very viscid. Later the amount increases slightly, it becomes less viscid, transparent, and consists essentially of mucin, with a few leukocytes. Frequently there are considerable numbers of lymphocytes present, although the majority of leukocytes are neutrophiles. Occasionally a considerable percentage of eosinophiles are found. The sputum then further increases in amount and becomes mucopurulent, containing many more bacteria,

an increased number of pus-corpuscles and eosinophiles, with many degenerated epithelial cells. There are always present a considerable number of Dittrich's plugs. These are mucotic plugs containing many staphylococci and streptococci or various other organisms that are causing the particular infection at hand. The predominating organisms, according to Ritchie (*Journal of Pathology and Bacteriology*, Vol. VII, Dec., 1900) are pneumococci and streptococci. In some cases the predominating organisms are influenza bacilli. These are very frequently associated symbiotically with the micrococcus catarrhalis (C. Lord, *Boston Medical and Surgical Journal*, Dec. 8, 1902).

The examination of the sputum is essential, first in order to determine the specific organism, as of necessity a different line of treatment must be pursued in an influenzal bronchitis than in a staphylococcus bronchitis. Often an examination of the sputum is necessary to differentiate other similar pulmonary conditions from bronchitis. A brief review of the findings in these follows.

Differential Diagnosis.—*Putrid Bronchitis.* The sputum in this condition is very fetid; it contains many Dittrich's plugs but no fat-crystals, elastic fibers or pulmonary tissue. In *pulmonary abscess* there are many elastic fibers and pus-corpuscles. Fatty crystals are usually found in sheaths, and hematoidin crystals are common. There are no bronchial plugs, and the foul odor is usually absent. In *pulmonary gangrene*, the sputum is voided periodically, large amounts at one time. It is alkaline in reaction and very offensive. Upon standing it separates into three layers, the foam, a greenish or gray serum, and a greenish to brown sediment. This sediment consists of lung-tissue, Dittrich's plugs, long fat-needles, blood-pigment, pus, blood, triple phosphates, and many bacteria.

The differentiation between pulmonary tuberculosis and bronchitis is often aided by an examination of the sputum. In tuberculosis we have the characteristic tubercle bacilli, and most of the leukocytes are lymphocytes. There are no eosinophiles present. Sometimes in bronchitis acid-fast bacteria, resembling tubercle bacilli, are found. These organisms, however, are much narrower than tubercle bacilli and have sharply pointed ends. At times an inoculation experiment is required in order to determine with certainty the presence of tubercle bacilli.

The blood findings, except in cases of influenzal bronchitis, are those of a secondary anemia, i. e., a reduction in the number of red blood-corpuscles, with a corresponding decrease in the amount of hemoglobin, and an inflammatory leukocytosis, an increase in the total number of leukocytes and an increase in the percentage of neutrophiles. In influenzal bronchitis, that is, if the predominating organisms are influenza bacilli, there is a greater anemia and practically no leukocytosis.

J. Favil Biehn.

Chicago, Ill.

TREATMENT OF ACUTE BRONCHITIS

Prophylaxis.—The removal of hypertrophies, adenoid tissue, etc., and the correction of deformities of the upper air-passages are important prophylactic measures. Persons should become accustomed to daily cold sponging or bathing; they should not dress too warmly—too much "bundling up," especially about the chest and throat, is unwise and renders a person more susceptible to colds. The temperature of the living room should vary but little from 65° F.; the sleeping room should be cold; both rooms should be well ventilated. Pure fresh air is essential to health. Uricemics, cachectics, and persons addicted to immoderate use of beverages are especially subject to bronchitis and other respiratory catarrhs. Ice-water-fiends are especially liable, as their constant perspiration renders them susceptible to every draft.

Abortive Treatment.—Many times an attack of acute bronchitis can be aborted within the first twenty-four hours. If the patient is seen upon the onset of the first signs of bronchial catarrh, treatment should be immediately instituted with a view to aborting the disease. A full dose of saline

laxative should be administered and repeated in two or three hours if the first dose fails to move the bowels freely. The patient should take a general hot bath of 100° to 105° F. and go to bed as soon as the bath is over; a glass of hot lemonade should be drunk, and the patient covered with woolen blankets with a view to promoting diaphoresis. The room should be equably heated and the air kept moist by water continually evaporating in it. Internally the patient should be given one of the following:

1. Aconitine (amorphous), gr. 1-134; atropine, gr. 1-500; morphine, gr. 1-67; given together and repeated every twenty or thirty minutes until the physiologic effect of the aconitine or of atropine is felt, when the interval between the doses should be extended to one or two hours, the object being to keep up the effect attained, but not to exceed it. This line of treatment is of value in overcoming the acute coryza and checking the free, watery, acrid discharge from the nose. If, in the judgment of the physician the patient is suffering from acidemia or uricacidemia, then this combination of aconitine, atropine and morphine should not be given, but the following administered instead:

2. Atropine sulphate, gr. 1-500; quinine sulphate, gr. 1-6; camphor, gr. 1-6, taken together every fifteen or twenty minutes until the effect of the atropine is slightly felt, then less frequently, so as to maintain the effect, but not to exceed a slight dryness of the mouth. In addition to this, the patient should take a teaspoonful of sodium bicarbonate in half a glass of water every three or four hours, to overcome the acidemia and to render the blood more alkaline. Free elimination should be brought about by way of the bowels, skin and kidneys.

If the hot bath, hot drinks and warm covering do not promote sweating, pilocarpine, gr. 1-67, may be given every five or ten minutes until sweating or salivation begins, when it may be discontinued, for the sweat-glands once stimulated by pilocarpine will continue to act under the influence of external heat and warm drinks without the further administration of the drug.

One of the two lines of treatment above described will be found efficacious in an ordinary case of acute bronchitis with acute coryza, in which the trouble seems to be localized in the nose, throat and upper bronchial tubes. Cases in which is shown more constitutional disturbance, such as chills or marked chilliness; muscle pains; fever of one, two or three degrees; small, rapid pulse with high arterial tension; dry, painful, paroxysmal cough, etc., require a different treatment at the onset of the attack, namely:

The thorough emptying of the bowels with saline laxative, as also the hot bath and hot drinks are as necessary here as in the first variety. The patient should be put to bed, and sweating promoted if possible. Internally, in sthenic cases, aconitine (amorphous), gr. 1-134, digitalin, gr. 1-67, and veratrine, gr. 1-134, should be given, together, dissolved in half to one ounce of hot water, and repeated every fifteen or twenty minutes to effect, that is, until the fever is lowered, the pulse becomes softer and slower, and the skin is moist, when the medicine may be given every hour or two or often enough only to maintain the effect.

In all cases that are not distinctly sthenic or plethoric the "dosimetric triad," i. e., aconitine (amorphous), gr. 1-134, digitalin, gr. 1-67, and strychnine arsenate, gr. 1-134, should be given every half hour to one or two hours as required.

In the majority of cases the measures above outlined will abort the attack, but they will leave the patient relaxed and in a favorable condition to contract a fresh cold. If it be necessary for the patient to leave the house while this general relaxation is still on, tonics, such as brucine, gr. 1-67, or strychnine, gr. 1-67, with quinine, grs. 1 or 2, should be given every hour or two until the tonic influence is manifest, then just sufficiently often to sustain the tone for several days, maintaining restriction of the quantity of food and drink.

If these measures do not break up the attack, or if the patient is not seen until too late to abort it, much can be done to hasten it through its various stages and to make the

patient more comfortable. The dry, inflamed mucosa can be greatly relieved by bringing about an outpouring of secretion from the bronchi, thus hastening the development of the second stage.

To promote mucous secretion we must rely upon certain internal remedies, inhalations and external applications. For internal use there are at command four excellent remedies, to wit, apomorphine, lobelin, emetin and alkalis.

Apomorphine is the most speedy and powerful in its action and suitable for severe attacks affecting robust individuals. The dose is 1-67 grain every fifteen or twenty minutes till faint nausea is experienced, then less frequently. Lobelin is a powerful stimulant to secretion, better suited to croupy and dyspneal forms. It can be given in dosage of 1-67 grain to effect. Emetin is applicable to children and weakly patients, where the more powerfully depressing remedies might be dangerous if given recklessly. The doses and administration of emetin are the same as those of apomorphine and lobelin. Whichever drug is used, it should be continued until the mucous secretion is loose, thin and yellow.

Along with one of the remedies named either citrate, acetate or carbonate of potassium or of sodium, in doses of 10 to 30 grains, should be given. A dose of one of these alkaline salts should be given in milk or plain or mineral water every four or five hours.

The inhalations of a 2- or 3-percent solution of sodium bicarbonate or of physiologic salt solution through a steam inhaler are very beneficial. If an inhaler is not available, the patient may hold his head, covered with a cloth, over a dish of boiling water to which may be added balsam of tolu or of Peru or tincture of benzoin (one dram to one pint).

The bronchitis-tent serves a useful purpose for children. It can be made by hanging over the bed sheets supported by a rack or by a screen. Underneath the sheet there is kept boiling, by means of an alcohol lamp, a pan or kettle of water, thus saturating with moisture the air which the child breathes. Some aromatic, such as tincture of benzoin, eucalyptol, balsam of Peru, etc., may be used in the water if thought advisable. Mild counterirritation to the chest is of value in this stage, and the practician may choose between a mustard plaster, iodine and camphorated oil, ammonia liniment, dry-cupping or the cold compress. Each has its advocates and each is of value. Cold compresses are highly prized by some practicians, but personally I do not employ them in plethoric uricemia persons who catch cold easily.

The cold compress is applied in the following manner: A linen bandage about three yards long and six inches wide is dipped into water of room temperature and thoroughly wrung out. One end of the binder is applied to the right axilla, the binder carried across the chest to the left shoulder, across the back to the right axilla, across the chest to the left axilla, across the back to the right shoulder, and then to the middle of the chest. A second cross-bandage of dry flannel is then applied over the first one and the dressing left in place until it is dry, which usually requires four or five hours. A second wet-pack may then be applied or the skin may be washed with alcohol and rubbed dry. It is unnecessary to apply an impermeable oilsilk or rubber dressing over the wet bandage; if the binder is to be left on all night, the patient may wear a woolen shirt rather than a flannel bandage over the cross bandage.

The early cough of acute bronchitis may be greatly relieved by one or the other of the following "cough" combinations:

Morphine sulphate .....gr. 1-100
Tartar emetic .....gr. 1-100
Emetin ..... gr. 1-500
Pilocarpine nitrate .....gr. 1-250

One or two such doses may be given every half to one hour until effect.

Codeine sulphate .....gr. 1-67
Emetin .....gr. 1-67
Aconitine, amorphous ...gr. 1-500
Hyoscyamine, amorphous gr. 1-1000

Of these one dose may be given every half to two hours, dissolved in 1-2 to 1 ounce of water, and pushed to effect. If

dryness of the mouth or throat manifests itself, the remedy should be suspended. If the cough tends to become dry, with scanty secretions, it may require apomorphine, lobelin or emetin. If there is much dyspnea with irritative cough, 1-500 grain of atropine and the same amount of glonoin may be given every thirty to sixty minutes until effect is manifested. Strychnine, gr. 1-30, every two to four hours, increases the tonicity and resistance of the bronchial tissues, causing contraction both of the bronchial musculature and the large respiratory muscles, thus tending to expell the tough, viscid mucus and to overcome the morning and nocturnal dyspnea. A full dose of strychnine taken at bedtime often will prevent attacks of dyspnea during the night. Aspidospermine is another remedy of value in dyspnea. It may be given in doses of 1-12 grain every thirty minutes until effect.

As the attack progresses it may run into bronchorrhea, with free serous secretions. Here oil of turpentine, terpin hydrate, terpinol, tar, balsams of Peru and of tolu, cubebs, volatile oil of copaiba, sodium benzoate, guaiacol benzoate, iodized calcium, creosote, eucalyptol, ammonium chloride or carbonate, and so forth, will prove of great benefit.

In elderly patients the sensibility of the respiratory mucosa is slight, the tissues are relaxed, and the impulse to cough is not felt. Secretions collect in the bronchi until the patient is literally drowning in his own secretions. The remedy is an emetic of seidlitz powder, the acid solution being first swallowed and then the other, which will empty the stomach more quickly than any other emetic and without nausea or depression. Follow with sanguinarine nitrate, gr. 1-67 every half to two hours, which will stimulate sensation and make the patient cough harder.

Infants with bronchitis also have little sensibility in the mucous membrane and care must be taken that the secretion is raised. Somnolence, blueness about the lips, pallor, shallow respiration with little or no cough, should excite uneasiness, but are apt to be overlooked by an inexperienced mother. An emetic will rid the chest of mucus, but it further lowers the vitality. Sanguinarine in doses appropriate to the age is of value, also strychnine pushed to the physiologic limit. Place the babe in a hot bath and dash a little cold water on the chest to excite crying and full respiration. If emetics are given, it should be only at night, so that the respiratory tract may be freed from mucus before the parents settle for sleep. Opiates should rarely be administered to infants and never when subject to bronchitis.

Convalescence.—During convalescence the patient may need cardiac, respiratory, hematic and general tonics, such as digitalin, strychnine, atropine, arsenic, iron, etc. One of the best general tonics to give during convalescence from acute bronchitis is the triple arsenates of iron, quinine and strychnine with nuclein.

During the first stage of the disease the diet should be liquid and taken hot. Later solid food may be given.

Free elimination by the bowels, kidneys, and skin should be maintained throughout the whole course of the disease.

GEORGE F. BUTLER.

Chicago, Ill.

CHRONIC BRONCHITIS

Many years ago, when cimicifuga was urged as a "cure for consumption," Stillé said that the cases it cured were probably chronic bronchitis. We should be glad to find a cure for chronic bronchitis. Usually it is not cured, but recurs each succeeding winter earlier, stays later each spring and tends to become continuous throughout the year.

The climatic and hygienic treatment is the same as with tuberculosis—the climate that allows the patient to be most hours in the open air and affords most sunlight is the best. Windy localities are to be avoided. Wool next the skin has always been recommended, as best protecting the wearer against changes in temperature and accidental dampness.

We will assume that every point of domestic and personal hygiene has been regulated, and the patient eats, drinks, exercises, rests, according to the scheme carefully laid down by his physician. The factor of fecal toxemia has been eliminated by emptying the bowels, disinfecting them and keeping them clear and clean.

Anemia, scrofula, and other general dyscrasias have been detected and remedied. The elimination by liver, kidneys and skin has been tested and brought up to the standard. Digestion and malnutrition are maintained close to the normal point. We have remaining the pulmonary problem.

We have two principal forms—dry bronchial catarrh and bronchorrhea.

In the Dry Form the cough is excessive and harrassing. This may be moderated by small doses of emetine, 1-250 grain of the *pure alkaloid*, given every hour as long as nausea is not induced. This incites the secretion of normal respiratory mucus and allays the irritation. To this we may add zinc cyanide, one milligram with each dose, or iodoform, same dose; or cicutine hydrobromide if there is thoracic pain or pronounced reflex irritability. If any opiate must be employed, let it be narceine, a milligram allowed to dissolve on the tongue. The inhalation of steam, or the atomizing of menthol in fluid petrolatum, or of thymol iodide in this solvent, is useful as a palliative and as a means of checking the morbid processes and setting up those that tend to cure. Counterirritation over the pneumogastric nerve in the neck also aids in allaying irritability.

Sometimes the spasmodic element is marked, and lobelin well replaces emetine, while gelseminine may be required during the evening to procure sleep. Give a milligram every half hour until "dose enough."

Subacute Attacks, with dry, hot, swollen mucosa, call for veratrine or antimony arsenate, one milligram of either every half hour till effect. But if taken in their incipiency, a grain of calcidin every ten minutes for an hour usually will dissipate the attack.

Acute Febrile Intercurrents respond promptly to a centigram of pilocarpine hypodermically, aided by a hot mustard foot-bath and a brisk cathartic, a centigram each of calomel and jalapin every one-half hour for six doses, followed by a full dose of saline laxative. The cough is always eased by charging the air of the sick-room with steam. There is little to be gained by medicating it, although many patients like the addition of vinegar.

In Bronchorrhea we have a profuse discharge of mucus—serous, gelatinous or purulent. Saturation with calcium sulphide stops the formation of pus. Atropine checks serous discharge speedily; and a gram of calcium lactophosphate daily, in divided doses, restores the relaxed and fragile cell-walls to such condition as enables them to retain the serum. This is especially valuable in colliquative forms. The gelatinous discharge is harder to control. All forms are restrained by the use of iron, myrrh, oil of cinnamon, and especially by copaiba. The latter is best employed in very small doses so as to avoid irritation of the stomach. Too large doses stop the discharge, leaving the mucosa tumefied and dry, and the patient feels easy only when the effect passes off and the discharge reappears. Sprays of oil of cinnamon in any bland vehicle are useful. Strychnine arsenate or ergotin in full doses check the discharge temporarily.

Offensive Sputum.—When the sputa become offensive we have need of creosote, phenol or oil of turpentine, by the stomach and in sprays. The latter should be used very frequently, especially if gangrene is apprehended. Zinc phosphide is then required to incite vitality, a centigram before meals.

So great is the malefic influence of fecal toxemia that many patients drop all other treatment and settle down to a daily cathartic as their only resource.

Since the continuance of the morbid process indicates the failure of the affected tissues to throw off the disease and institute repair, it is wise to stimulate the vitality of the cells by small doses of sanguinarine, a milligram seven times a day.

Catarrhs of the Mucosas.—Several remedies are believed to exert a favorable influence over the mucous structures specifically, aiding them to throw off disease and assume normal functionation. Rhus toxicodendron and arbutin are especially effective in disease of the genitourinary mucosa and have some efficacy in the bronchial catarrhs. They should be given in small doses and for prolonged periods.

In this as in all chronic catarrhal maladies, success lies in a comprehension of the main factors of the malady, in the judicious selection of remedies, and in persistence in the treatment, while employing to the full extent the hygienic accessories.

WILLIAM F. WAUGH.

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PHYSIOTHERAPY IN THE TREATMENT OF BRONCHITIS

Etiology.—Acute bronchitis, according to Malsbary, is, in the vast majority of cases, due to infection, either directly through the invasion of the bronchial mucous membrane by microorganisms, or indirectly through the elimination of toxins, as may be observed especially in typhoid fever and in cerebrospinal meningitis. It is sometimes due to the elimination of poisons like alcohol and iodine, and accompanies many of the exanthemata; sometimes it is due to extension of an inflammation from the upper air-passages, and finally it may be produced by trauma.

Chronic bronchitis may evolve from the acute form of the disease. It is found in tuberculosis, emphysema, asthma, disease of the heart, gout, rheumatism, diabetes, alcoholism. It may also be due to the irritating action of dust, etc.

Therapy of Acute Bronchitis.—The therapeutic measures which we discussed in connection with pneumonia (CLINICAL MEDICINE for March, 1910, p. 351), especially the first stage of the latter, are applicable in the treatment of bronchitis, particularly at the outset of the disease when a jugulation of the attack is possible in not a few instances. Forcible elimination through the skin is desirable at the very inception of the attack. Any of the technical resources which are ordinarily employed to bring about a general increased activity of the body-surface (hot foot-bath, followed by a stimulating hot drink, a general cold moist-pack, a general hot immersion, a general hot-pack, dry or moist, the dry-heat cylinder, electric light or simply superheated air) may be employed for this purpose. The technical part of this eliminating procedure we have repeatedly discussed. After general elimination through the skin has been effected, derivation to the lower extremities, as repeatedly discussed on previous occasions, should be brought about in the usual manner. (See last lesson.) The inhalation of warm steam is useful in allaying and loosening a tight and tenacious cough. If the local symptoms are unusually severe, the application of the chest-compress (Priessnitz' pack to the thorax) answers an admirable purpose. The hygienic and dietetic regime in these cases does not differ from that ordinarily enforced in, and exhaustively discussed under, the head of "pneumonia."

Treatment of Chronic Bronchitis.—The treatment is largely and primarily influenced by the underlying cause of the catarrhal condition. Physicians are apt to overlook some very common etiologic factors in these cases. If the skin-function of the patient is insufficient, as indicated by a dry or even cold skin, the chronic bronchial catarrh is in all probability the result of a toxemia. Open the skin by suitable means and keep it active. Inhalation of pure air is a necessary condition of successful treatment. In many cases breathing exercise (systematic deep breathing, gymnastics of the thorax) is of great therapeutic value. All this holds good in patients whose circulation is poor and sluggish as shown by cold feet, dry skin, sallow complexion. Derivating procedures are valuable, especially if there is a tendency towards intrathoracic congestion. Most of these patients derive a great deal of benefit from walking in wet grass, as taught by the great hydrotherapeutist, Father Kneipp. If the chronic

bronchial catarrh is associated with, or due to, disease of the heart, lungs, kidneys or any other part of the body, the causative condition should, of course, receive careful attention.

Additional Therapeutic Measures.—Faradization or galvanization of the pneumogastric is of great value in the treatment of chronic bronchitis. Two sponge electrodes should be used, one being placed on the side of the neck, the other between the sternal ends of the clavicle and thence moved toward the epigastrium. The effect of this treatment can be much enhanced by vibration of the cervical region of the thorax and over the chest-wall generally. The strokes should be light and rapid. The treatment can be repeated daily for ten or fifteen minutes at each sitting. In cases of intrathoracic congestion a negative static spray is frequently of value. Spasmodic cough often yields to a simple static insulation. The alternate effects of exercise, particularly walking, rowing, swimming and horseback-exercise, are of the greatest therapeutic efficacy in many of these cases. General elimination through the skin should be enforced two or three times a week in most cases.

OTTO JUETTNER.

Cincinnati, Ohio.

REMARKS ON THE LESSON

In the treatment of bronchitis sufficient stress cannot be laid upon the fact that while in many cases the disease is idiopathic, that is, a disease *per se*, it is almost more often symptomatic of another underlying affection by which the bronchial inflammation has been induced. The two principal causes of symptomatic bronchitis are influenza and tuberculosis, and of these the latter is the more important one. Birch-Hirschfeld has shown, in 1898 and 1899, that an aerogenic tuberculous infection may become localized and lead to tuberculous lesions in the third and fourth divisions of the posterior apical bronchus; more often on the right than on the left side. In such a case the bronchial mucosa becomes considerably irritated, and in this form of bronchitis the tuberculous nature of the affection can early be determined microscopically.

Another frequent cause of bronchial irritation and inflammation we have in the inhalation of dust, especially in dusty trades, such as in garment workers and in stone workers. In spite of many ingenious contrivances which have been invented and put in operation in the last thirty years, by which the dust is sucked away from the workmen, the inhalation of a considerable portion of dust cannot be avoided, which then not only inflames the bronchial mucosa but passes through it, being partly deposited in the lymph-nodes, especially at the hilus of the lung, and partly in the lung parenchyma, where it may cause mechanical disturbances.

An important factor in the treatment of all affections of the respiratory organs is very apt to be lost sight of, and that is the free inhalation of pure air. Persons who habitually breathe deeply and who expand their chests fully on inspiration are less apt to acquire bronchitis and kindred affections than are shallow breathers. In chronic bronchitis a change of climate may be productive of the happiest results if this is a change to purer air.

COMMENTS FROM THE STUDENTS

We are much gratified by the interest shown on the part of our students in the Postgraduate Course and the splendid work they are doing. We should like to be able to print all the answers as well as comments upon the lessons, but that is manifestly impossible. Don't run away with the idea that those contributions from our students which we do print are the only good ones, or even the best ones. We are obliged to exercise some sort of selection, sometimes for a particular point which is brought out, sometimes, we confess, by a somewhat blind chance, a sort of grab-bag affair, choosing at random because we cannot determine a better or best. Nevertheless all replies received are carefully read and commented upon.

We can print here only a very few of the nice things that are said to us concerning the Course. Here are a few specimens:

Dr. L. R. Hawkins of Brewster, Kansas, writes: "You have no idea how much good I glean from the examinations, and there isn't a certificate in my office that I shall think more of than the certificate I expect to receive from the Postgraduate Course for the year 1909."

Dr. W. C. Eustis, Owatonna, Michigan: "I find the Postgraduate Course very helpful and hope it may always be continued. Any physician who answers the questions as he is able, regardless of the marking he may get, is sure to be greatly benefited."

Dr. J. C. Dignan, Wellington, Ohio: "I wish to thank you for your excellent work during the past year."

Dr. C. E. Buckley, Cherryvale, Kansas: "I have enjoyed the Postgraduate work during the past year and I thank you and your coworkers."

Dr. Victoria S. Ernst, Bridgewater, Nova Scotia, Canada: "I like the Postgraduate Course very much indeed, and hope it may be continued for a long time—indefinitely."

Dr. G. W. Mullins of Milano, Texas: "The last year's Postgraduate Course has been worth more to me than any former course I have ever taken."

Dr. P. H. Acuff, Washburn, Tennessee: "I assure you the Postgraduate Course has been of the greatest value to me. I am very much interested in your most logical views of conditions treated of in this course."

Dr. A. S. Thompson, McDonald's Corners, Ontario, Canada: "I cannot let the end of the year pass without attempting to thank you for the value the course has been to me, and I would also remember the demands such work has made upon your time and mind. Such work is only possible to men who have the good of the profession at heart. I therefore want to acknowledge my personal indebtedness to you and your associates."

The Director and his associates thank all who have favored us with letters for the kind expressions of appreciation concerning the work they have been trying to do. The reading and correcting of the many papers which are sent in entails a great deal of work, and which sometimes by no means is easy; but we feel fully repaid for our trouble in the knowledge of being of assistance to our friends and by the further assurance that our efforts are understood and are of benefit.

High Temperatures in Typhoid Fever.—Dr. D. Y. Phadnis of Kagal, Bombay, India, says about the management of high temperatures in typhoid fever:

"With regard to the high temperature in typhoid fever, I think it an error to consider its elevation as a thing to be attacked as if it were a disease in itself, when, in fact, it is a sign or a result of the effects of the poison secreted by the germs. Some men rejoice to see the temperature fall as a result of their treatment. No doubt the lowering of temperature has a very beneficial effect on the patient, but this decline is not lasting, for after some hours the temperature again rises, and so we again must give the same drugs which influenced the fever. The only drugs having the power of forcibly reducing the temperature are coaltar preparations, as antipyrin, phenacetin, antifebrin, carbolic acid, etc.; but all these are depressing and toxic, and should, therefore, be discarded altogether.

"It is admitted, however, that a long-continued high fever is quite dangerous to the patient. If one intends to use those antifebrile drugs recommended in dosimetry, such as the defervescent compound or dosimetric trinity, they should be employed only with due regard to the pulse, and must be given until the result is attained. These granules should, however, be given only in the first week of the attack. Still, the best thing is not to interfere till the temperature rises above 106° F. and the patient's condition arouses the physician's anxiety. When, however, the temperature keeps above 104° F., with but slight morning remissions, and our antiseptic treatment with the sulphocarbolates fails to reduce it, then we must employ such means that will reduce the fever but are harmless to the patient, and for this purpose hydrotherapy is the best."

Your idea is correct, Doctor. It is a mistake to force or club the temperature down with coaltar products, for it will surely take another upward jump as soon as the action of the drug ceases. The only way to control the temperature lastingly is to eliminate the cause, that is, to fight the typhoid bacilli and, still more important, to counteract their toxic effects. The sulphocarbolates fulfil both indications nicely in connection with eliminative treatment. In the meanwhile hydrotherapy has for many years been an established means of preventing the fever from rising beyond bounds, that is, of preventing it from rising to a dangerous degree. Remember that a uniformly high temperature (unless it be above the danger-point) is less harmful to the patient than a fitful temperature which shows large remissions, only to rise again. The latter exhausts the patient rapidly. Nevertheless, I should not care to leave my patients at a temperature of 104° F. without reducing it by gentle means. I think the limit of safety is lower than you give it.

Abortion of Pneumonia.—Dr. T. H. Line, Marquette, Nebraska, gives a very interesting paper and we judge that he is a successful practitioner. Dr. Line believes that pneumonia can be aborted. He says:

"I am a believer in the abortive treatment of pneumonia. I begin with the usual routine of thoroughly emptying the alimentary canal and disinfecting it as thoroughly as it can be done, applying at the same time a libradol paste-poultice and giving alternately every half, one, two or three hours, according to the severity of the fever, the dosimetric trinity No. 1, and defervescent compound No. 1—I get better and quicker results when I use these two granules alternately, both in sthenic and asthenic types, than when I give one without the other. For the cough I use a mixture of codeine, ammonium chloride and syrup of lactic acid in water. To counteract hypostasis, stimulating applications to the chest, and frequent change of posture have served me best, although sanguinarine is much lauded. The diet is limited to liquid food whenever it can be digested. I have found that a forced diet does more harm in a fever than it does good. Every case will require a different diet to be appreciated by the patient. I have not had a severe case of pneumonia for a number of years. Whether it is owing to the above treatment or to luck, I leave for others to decide."

Malarial Fever in Honduras. Immunity of Negroes.—Dr. J. Abbott, Oak Ridge, Ruatan, Spanish Honduras, writes as follows regarding malarial fever, and in answer to Dr. Juettner's request for information concerning malarial fever and negroes (see CLINICAL MEDICINE for January, p. 120):

"During the last ten years I have treated more than one thousand cases of malarial fever on this island. I have lost but one case and that one a boy thirteen years of age, who died from blackwater fever; but I was only called to see him two hours before his death. His was the only case of "blackwater fever" that I have seen on the island, but there is a plenty of it on the mainland, 35 miles south of us, where all varieties of malaria are of a severer type than they are on this island. Here nearly all cases are of a mild nature.

"In answer to Dr. Juettner's request for information concerning the negro, as to whether he is immune from malaria or not, I answer, No, for I find that both the Negro, and the Carib Indian, who has a dark skin, suffer as much as the white man from malarial infections of all kinds."

The Treatment of Pneumonia.—Dr. A. A. Stuart of Lincoln, Michigan, describes the alkaloidal treatment of pneumonia as follows:

"Give calomel, gr. 1-6, and podophyllin, gr. 1-6, every half hour, for three hours. Follow with a teaspoonful to a tablespoonful of effervescent magnesium sulphate one hour after the last dose of calomel and podophyllin. Repeat the saline every twenty-four hours. Give an enema of warm salt water. After the bowels have moved give from 5 to 10 grains of the sulphocarbolates every three hours, giving with each dose of sulphocarbolates a drink of water. To relieve the local congestion use aconitine,

digitalin and veratrine every half hour or every hour until the skin moistens, the temperature falls and the pulse-rate reaches 80 or lower. In asthenic cases strychnine takes the place of veratrine. Administer nuclein in 10-minim doses if the patient is weak, in order to induce a hyperleukocytosis. For pain in the chest give bryonin, gr. 1-67, and hyoscyamine, gr. 1-250; or if pain is severe, give a hypodermic of morphine, 1-8 to 1-4 grain. The dosage and frequency of treatment must vary according to the condition of the patient and the judgment of the physician. Codeine sulphate usually is sufficient for the cough. If the patient is nervous and wakeful give veronal, grs. 15. Give potassium acetate or citrate, grs. 15, three times daily, if the urine indicates its use. For the heart, give strychnine, digitalin and whisky in small, often repeated doses. In case of collapse use ammonia."

Physical Forms of Treatment.—The same writer says:

"To deplete the congested area is the first indication. Apply a cold moist-pack from the feet to the costal border, allowing this to remain on one hour after covering with comforts. Repeat this two or three times daily. A cold application to the chest, as well as an ice-cap, may be advantageous. After removing the pack rub the patient dry. *Keep the skin active.* For pain in the chest order hot local applications. Massage the abdomen and give an enema. Keep the room well ventilated. In the stage of exudation, if the temperature exceeds 103°F., administer a cold sponge-bath and follow this up with a dry-rub. Use an ice-bag for local consolidation. Faradic treatments sometimes strengthens a weak heart. For headache use massage. For my own treatment of pnuemonia I should use the alkaloidal treatment with the addition of a little quinine. I have always felt that quinine was very useful in pneumonia."

Dr. Stuart adds also: "It is my honest conviction that pneumonia can be aborted. I have frequently had patients with the initial chill, high fever, etc. For instance in the case of a French lady of 24. As I entered the bedroom, I said: 'I know what is the matter with you.' Her right cheek was flushed, breathing rapid. There was high fever ushered in with a chill, pain in the chest, scanty urine, sputum of a reddish color. I immediately opened the window and tacked a light cloth over the open space. Gave the patient a cold soda bath. Next I gave an enema and followed this with calomel, grs. 5, followed with teaspoonful doses of saline laxative every three or four hours. Aconitine, digitalin, veratrine every hour until fever and pulse were markedly lowered. To this I added quinine, grs. 2, every three or four hours. I kept this treatment up and had no consolidation. I also administered nuclein solution and the following tonic:

Nux vomica	drs. 2
Tincture of rhubarb	drs. 2
Alcohol	drs. 4
Water, q. s. ad	ozs. 4

Label: A teaspoonful in water before each meal.

If the system is depleted and blood is drawn away from the congested area there is no reason why consolidation should occur. But in weak patients, and in the aged, I believe it impossible to prevent it. In the early stages of pneumonia use a hot-pack after applying a little guaiacol and camphorated oil to the chest. Apply a cold-pack from the ribs to the feet, and perhaps from the neck to the feet, depending on the condition of the patient and the physician's judgment. Repeat this two or three times daily. For pain in the chest a local hot application could be used. For consolidation: local ice-bags.

"The most frequent complications of pneumonia are pleurisy, endocarditis, pericarditis, meningitis, arthritis. For the pleurisy of pneumonia the treatment is calcidin, blister, codeine, morphine and atropine, and the defervescent compound. For endocarditis or pericarditis: an ice-bag and massage, morphine and atropine; salicylic acid if rheumatism is suspected. For meningitis: migraine tablets if the heart is strong; ice applied to nape of neck and head. Spirit

of camphor for depression. Veratrine to eliminate. For arthritis: triple arsenates, salithia, salicylates."

Dr. Stuart is of the same opinion as are many other practising physicians who have used the active-principle method, namely, that pneumonia can be aborted. He feels positive that if more physicians would treat pneumonia according to these principles it would not be considered so fatal a disease as it now is.

Pneumonia in Children.—Dr. J. Zimmerman, Lynnville, Ind., reports the following case of a child suffering from pneumonia and gives his treatment:

"The patient was a child, male, white, age 6 months. Temperature, 103°F., respiration 50, pulse 135. There was increased expiration with râles over both lungs, and much meteorism. I commenced treatment by giving one-tenth grain of calomel, half-hourly for eight doses followed with castor oil. Then I gave one grain of the compound sulphocarbolates every two hours, and the defervescent compound every hour, changing later to the dosimetric trinity. I gave emetin and bryonin together every two hours, later. On the third day, as the temperature was 102°F., cyanosis present and collapse threatening, I gave atropine, glonoin, digitalin and strychnine, and a decided change speedily manifested itself. As the tympanites was marked I put a kaolin poultice on the abdomen, gave an enema, and that symptom was relieved. The patient made a good recovery in about ten days. I have had a number of cases similar to the above, all treated in the same way with the same results."

Nowhere has the heart to be supported and coaxed as much as in these little patients, since they pass so easily over the great divide. The doctor met the danger with emphasis and carried the little baby through beautifully. We doubt whether that could have been done without drug treatment, and more especially without employing the active principles.

Alkaloidal Treatment of Pneumonia, as employed by Dr. A. Graves, Mehama, Ala., is as follows:

"Aconitine, veratrine and digitalin in sthenic cases, and aconitine, digitalin and strychnine in asthenic cases to overcome the vascular paresis in the congested area, to overcome contraction in the balance of the circulation, and to promote elimination. These combinations lessen the congestion by establishing circulatory equilibrium, reduce the fever and relieve and steady the overburdened heart. Sanguinarine stimulates the pulmonary tissue and helps to overcome hypostasis; codeine and emetin take care of the cough; calomel, podophyllin, saline laxatives and the sulphocarbolates take care of the alimentary canal."

For the Physical Treatment, he says: "Make hot applications to the lower extremities and over the abdomen, and cold applications to the head if there be delirium.

"I have never had but one case of pneumonia in the extreme of life and that was in an old man seventy years of age. In this case I substituted strophanthus for digitalis and increased the dose of strychnine; otherwise my treatment was the same as in other adult cases. The case ran a typical course and the patient recovered."

This treatment might be called a *multum in parvo;* it certainly covers the most important indications and will, as a rule, give excellent results.

EXAMINATION QUESTIONS

1. What diagnostic information may be obtained from the examination of the sputum in bronchitis?

2. What are the predisposing causes of bronchitis?

3. How do you treat acute bronchitis? Chronic bronchitis?

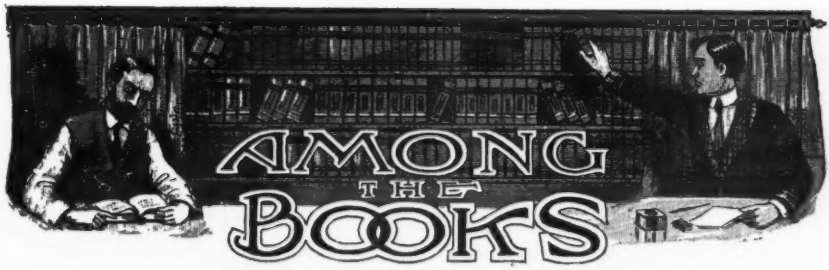
4. Enumerate some of the difficulties met with in the treatment of chronic bronchitis.

5. When is it proper to prescribe morphine or other derivatives of opium in bronchitis, and why?

6. Describe the principles of physiotherapy as applied to bronchitis.

7. Have you had any success in treating the chronic bronchitis of old people? If so, give case histories.

8. What is, in your opinion, the best treatment of bronchitis in children?



KELLY AND CULLEN'S "MYOMATA OF THE UTERUS"

Myomata of the Uterus. By Howard A. Kelly, M. D., Professor of Gynecologic Surgery at Johns Hopkins University; and Thomas S. Cullen, M. B., Associate in Gynecology at Johns Hopkins University. Large octavo of 700 pages, with 388 superb original illustrations by August Horn and Hermann Becker. Philadelphia and London: W. B. Saunders Company. 1909. Price, cloth, $7.50 half morocco, $9.00 net.

This volume deals almost exclusively with work done by those connected with the gynecological department of Johns Hopkins Hospital and University. The number of cases from which the teachings of this book are derived is 1674. The book is important for the expert specialist as well as for the practician who needs a thorough diagnosis in uterine diseases and organs neighboring to the uterus.

The practical work done by the authors of this book is immense, the patience astonishing, and the service rendered by it to humanity a matter of gratitude to the God of humanity and to his servants, the authors.

THE "ABSTRACT SERIES"

Vest Pocket Abstract Series on Medicine, Dentistry, and Pharmacy. Published by The Medical Abstract Publishing Company, Pittsburg, Pa. Price per volume, flexible leather cover, $1.00.

The precious little volumes of this series before us are, respectively, on Anatomy, by Stewart L. McCurdy, A. M., M. D.; Physiology, by F. A. Rhodes, M. D.; Chemistry, by John Inglis, A. M., M. D.; Materia Medica and Therapeutics, by Charles A. Orr, A. M., M. D.; Histology and Bacteriology, by A. B. Wallgren, B. S., M. D.: Medical and Surgical Emergencies, by Stewart L. McCurdy, A. M., M. D.; Physical Diagnosis and Laboratory Diagnosis, by H. P. Kohberger, Ph. B., M. D.; Obstetrics, by Wm. D. Inglis, A. M., M. D.; and Medicine, by H. P. Kohberger, Ph. B., M. D.

These volumes are not meant to teach, but to remind quickly the physician or medical student who has been taught well and learned well the subjects treated of in these volumes and who is anxious just now to rehearse and recall rapidly the salient and important points of a subject just under consideration. For such a purpose the conception of these volumes is excellent and their elaboration in the true sense of *multum in parvo* admirable.

SIDIS' "STUDY OF SLEEP"

An Experimental Study of Sleep. (From the Physiological Laboratory of the Howard Medical School, and from Sidis' Laboratory.) By Boris Sidis, Ph. D., M. D., Boston: Richard G. Badger, The Gorham Press. 1909. Price $1.00 net.

This is a pamphlet of 99 royal octavo pages. The subject-matter is divided into two parts, Experimental and Theoretical. It is written in very clear style so that anyone acquainted with biology can get well at the author's ideas and at those of other authors on the subject which Dr. Sidis

quotes. It is a work with which an educated physician ought to be acquainted.

BREWER'S "SURGERY"

Text-Book of Surgery. For Students and Practitioners. By George Emerson Brewer, A. M., M. D., of the College of Physicians and Surgeons, Columbia University, New York. Illustrated with 415 engravings in the text and 14 plates in colors and monochrome. Second edition, thoroughly revised and much enlarged. New York and Philadelphia: Lea & Febiger. 1909. Price $5.00.

This book comprises 915 octavo pages, of which 40 are occupied with a good and useful index. The author, we think, succeeded in giving us a very useful book on surgery just "midway between a brief manual and a more-volumed treatise." There is need for such a book which comprises all surgical advances to date.

CALKINS' "PROTOZOOLOGY"

Protozoology. By Gary N. Calkins, Ph. D. Illustrated with 125 engravings and 4 colored plates. New York and Philadelphia: Lea & Febiger, 1909. Price $3.25.

Fifty years ago, when graduating supplementarily in the University Gymnasium of Vienna in order to enter the Austrian naval service as physician and surgeon, I presented the Latin thesis required of me on the thought comprised in the title, "*Est de Cellula Magis Argumentum Putendi Deum*," because in it all the functions of life are carried out without differentiated complex organs. It was with the feeling of a realized vision when I read in the preface of this "Protozoology" of Calkins the following words:

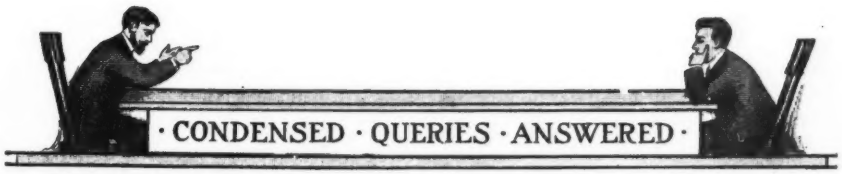
"Here in these mere specks of animated jelly, which rarely measure more than the hundredth part of an inch, we find in their simplest form the manifold processes of the living organism. Digestion and assimilation; respiration, with its dual action of oxidation and renewal; excretion and secretions; irritability and fatigue; reproduction together with the unfathomed mystery of fertilization and inheritance, all find expression in these simple animals and raise the lowest protozoon immeasurably above the most complex of nonliving substances."

The object of this book, the author avows, is to check, if possible, the prevalent idea that the study of protozoology is useful only in so far as the few pathogenic protozoa involved are concerned. His object is to show the great variety, beauty, and aimfulness of this vast class of minute living creatures, and from these to approach to a deeper understanding of what life and its powers are. It is reassuring to see such a work done, for it can be for no other object than for the love, the higher love, of the knowledge of life. So idealism is not dead. The author says this book is not intended to be exhaustive of the subject, and yet its 335 pages contain beyond what many an educated person would hardly dream of there being in the living world. I can not close these remarks without my sincere thanks to the author for his untiring labors to increase our more accurate and detailed knowledge of life.

HYDE'S "SKIN DISEASES"

Diseases of the Skin. A Practical Treatise for Students and Practitioners. By James Nevins Hyde, A. M., M. D., Professor of Dermatology in Rush Medical College, Chicago. Eighth edition, revised. Illustrated with 223 engravings and 58 plates in colors and monochrome. Philadelphia and New York: Lea & Febiger. Price $5.00.

This important treatise of some 1100 royal-octavo pages, closely printed, is thoroughly up to date and the most comprehensive reference-book on diseases of the skin in the English language. That it is reliable both as to diagnosis and treatment will be accepted wherever the name of the author is known, and that is far and wide. Taking into consideration the great intrinsic value to the practising physician in addition to the excellent mechanical execution of this work it is a wonder that it can be sold at such a reasonable price.



PLEASE NOTE

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report the results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

QUERIES

QUERY 5561.—"Calcium Sulphide in Diphtheria." B. G. O., New Jersey, has been informed that we have used and recommended calcium sulphide in diphtheria cases and that it has been very successful in destroying the bacilli. If this is correct, he says, he wants data on the subject as to the extent to which it has been used and the results obtained.

We have taken great pleasure in sending such literature as we have on calcium sulphide, and shall be pleased to answer any definite questions you may wish to ask.

As you know, this drug is one of the best systemic antiseptics we possess, but it must be given to "saturation," i. e., one to six granules of 1-6 grain each should be taken every thirty to sixty minutes for the first day, then four to six times daily to maintain effect." "Saturation" is secured when the patient's breath and secretions smell strongly of sulphureted hydrogen.

We have not at any time and do not now advance calcium sulphide as a "definite remedy" for diphtheria, but it is essentially indicated by the conditions present in this disease; and patients who are saturated with it are not likely to be as severely infected or present the serious conditions which would obtain where calcium sulphide is not used. We realize, as does every other thinking physician, the importance of the early use of antitoxin, but we also believe, in fact we know, that when antitoxin is not available satisfactory results will follow the use of nuclein, calcium sulphide and calx iodata.

We would point out, however, that the positive therapeutist does not treat named diseases, but the pathologic conditions present in the individual, recognizing particularly the underlying disturbance of the body-chemistry. He realizes that where normal metabolic conditions exist the invasion of the system by pathogenic bacteria is comparatively a trivial matter; but resistance lowered and an autotoxemic state prevailing, such invasion becomes serious. Hence our constant advocacy of elimination and intestinal asepsis.

It would not avail to give calcium sulphide where absorption is practically *nil*, the intestine filled with toxin-breeding material and the entire body-chemistry deranged. Sweep out the gross debris, render the bowel, kidneys and skin as active as possible, and then push the indicated remedies to effect, and you *must* get results!

Calcium sulphide, then, is advocated by us as one of the essential remedies in diphtheritic conditions. The sooner it is given (provided it is given correctly) the better; in fact, people exposed to infection should receive calcium sulphide early and remain saturated till danger of infection ceases. such individuals will rarely present evidence of the disease.

In conclusion let us call attention to the fact that the pills or tablets of calcium sulphide generally marketed are rarely satisfactory. This is a peculiar drug, pressure rendering it as "hard as rock;" hence (especially when absorption is poor and the

gastric secretions deranged) such masses are prone to pass through the alimentary canal almost entire. The correctly made granule is friable, disintegrates almost instantly in the presence of warmth and moisture, and saturation almost invariably follows its use; in fact, you can get better results from giving 25 to 30 1-6-grain granules of the right kind than you could from double the number of 1-grain tablets made by compression. Moreover, there is calcium sulphide and calcium sulphide. Some specimens purchased on the open market have proved utterly worthless therapeutically.

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QUERY 5562.—"Injections of Lobelia." G. W. B., Maryland, desires to learn of some preparation of lobelia that will not "set the patient crazy" for a while when injected.

We regret to say that at the present time there is no preparation of lobelia known which will not cause local irritation when injected hypodermically. We are working sedulously upon this very subject, and if worked out shall offer it to the profession. In the meantime you will find lobelin injected into the urethra or rectum to produce nearly all the results you could obtain from the hypodermic injection of the drug. Did you see the articles which appeared in CLINICAL MEDICINE, recently, upon this topic. What has been your own experience?

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QUERY 5563.—"Hepatitis." J. B., Missouri, is treating a boy twelve years of age who has for the past five weeks complained of pain in the right-side space just below the subaxillary region, in other words, just below the ribs in the midaxillary space. He has no tenderness upon pressure, no enlargement or discoloration except that there is an icteric hue all over his body. At the hour of 10 or 11 o'clock at night he starts in crying with pain, and keeps this up until 3 or 4 in the morning. One doctor, we are informed, has not made any tests and has seen the patient only while making another call in the country, but he wrote our correspondent: "The character of complaint being somewhat out of the ordinary induced me to solicit assistance. He has been treated for about five weeks by another physician without any relief at all."

This may be a case of hepatitis. The limited data presented will not enable us to form a diagnosis or to make any really useful therapeutic suggestions, but if you will make a careful physical examination and report succinctly the findings and send, at the same time, specimens of the urine and a blood-smear we may be able to speak positively. Examine the stools carefully, and if they are at all abnormal send a specimen.

Pending precise medication, Doctor, you cannot do much better than order quinine hydrobromide and berberine every three hours, with iridin and euonymin before meals and chionanthin after eating; a saline laxative every morning upon rising will, of course, prove beneficial. Hot salt-sponge-baths suggest themselves, while the bowel may, with advantage, be washed out with an alkaline antiseptic solution. What is the family history? Are you in a malarial region? It might be well to start treatment with a good dose of castor oil.

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QUERY 5564.—"Wanted, a Never-Failing Aphrodisiac." E. S. P., Kentucky, writes: "I want a never-failing remedy in impotence. I have used the 'aphrodisiac' formula, but it does not seem to give the required satisfaction. Please name remedies that never fail, if you know of any. I prefer alkaloidal granules to pills or liquids; patients have very little objection to taking the former."

The treatment of "impotence," Doctor, is no easy matter, and no single combination or arbitrary line of treatment could possibly prove applicable in all cases. Moreover, doctors being fallible, there are no "remedies which never fail."

The success of the positive therapeutist is due to the fact that he diagnosis closely and gives the right remedy for the conditions present in small repeated doses to effect—remedial or physiologic. Practically none of the active principles fail to produce definite results when used correctly, but you must not expect success if you prescribe

aconitine where veratrine is indicated, or veratrine where gelseminine is called for. You see the point, of course? Further, an aphrodisiac may be directly called for in a given case, but before it can exert its full influence it may be necessary to dilate the anal sphincter or correct hyperesthesia of the deep urethra or a prostatic congestion.

Aconitine is, perhaps, one of the most prompt y efficient and positively active remedial agents at the disposal of the modern therapeutist and tens of thousands of practicians use it daily with infinite satisfaction, still, now and again we receive a complaint that aconitine "does not reduce fever." Investigation proves that the doctor has failed to remove from the intestinal canal a mass of toxin-producing material or has omitted to carry out some other essential therapeutic procedure. The therapeutist is more likely to fail than a definitely acting therapeutic agent.

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QUERY 5565.—"Nephritis with Bladder Involvement." W. H. T., Kansas, submits a specimen of urine passed by Mrs. S., sick more than a year. When first seen, eight months ago, she was pregnant three months. Her urine had a specific gravity of 1010, contained lots of albumin, and there was frequent desire to pass water both night and day. Under treatment the albumin diminished and for a time the pain on passing urine was greatly diminished. The woman was delivered of a strong, healthy child, nursed it four months, then was compelled to wean it as her health was again failing. She now passed blood with the urine, also a good deal of mucus and pus, but all the time there has been great pain in passing water both during the act and after it for a little while; pain is the prominent symptom. The doctor adds:

"She is not, seemingly, losing flesh now. She weighs 100 pounds, is 5 feet, 5 inches tall, has had three children, no miscarriages, and has always had good health until about one year ago. She took a severe cold then and dates the beginning of her trouble from that. She has no stomach trouble, eats fairly well and has good digestion; is inclined to constipation but not hard to move. The bladder is shrunken so that it holds but little water before it has to be voided; the urethra seems very tender and is swollen. She passed 48 ounces of water in the last twenty-four hours."

The report of our pathologist reveals low acidity, indican, insufficient urea, hyaline casts, pus-cells, urates, uric acid, and albumin. Every symptom indicates that this undoubtedly is a serious case—a nephritis, unquestionably, and involvement of the bladder. Under the circumstances we suggest irrigation of the bladder with warm boric-acid solution twice a week, and copious enemata of decinormal salt solution at body-temperature every other or third day. Place this woman upon an absolute milk diet, having her consume two quarts of milk daily, and she should "chew" each mouthful so as to secure thorough mixture of insalivation. Saline laxatives will be of service; order a small teaspoonful of effervercent magnesium sulphate in a glass of hot water on rising. Give aconitine, digitalin and strychnine, repeating the latter at noon and night. In addition give arbutin in full dosage four times daily, with a dram of a good preparation of hydrangea, and every four hours formin with ammonium benzoate. Keep the skin active with salt sponge-baths. We believe you will find marked improvement in a month from this regimen.

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QUERY 5566.—"Thiosinamin in Stricture." T. C. R., New Mexico, desires to know whether thiosinamin can be used in an ointment worked back to a urethral stricture. Absorption with minimum irritation is the object to be attained.

Read the article on thiosinamin by Dr. Waugh, which appeared in this journal for last January, where the use of thiosinamin in stricture is referred to. Thiosinamin exerts a systemic effect and so need not be applied locally. Hypodermic injections may be given twice a week, an ointment containing papain, pepsin, thuja and carbenzol being applied locally. A small quantity of lobelin may be added. The character of

the stricture must always be considered. In some cases section of the stricture is absolutely essential, while in others gradual and careful dilation of the canal with steel sound suffices. It must not be forgotten that excellent results can be obtained in urethral stricture by the use of the galvanic current, with copper electrodes. Do not on any account use thiosinamin in the urethra until you are thoroughly familiar with the action of the drug.

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QUERY 5567.—"Rhus Poisoning." K. J. S., Tennessee, asks for a specific line of treatment for poisoning from rhus toxicodendron.

There is probably no better treatment for rhus poisoning than of rhus toxicondron internally in small repeated doses, after brisk purgation, in conjunction with local applications of carbolized solutions of magnesium sulphate, the compresses being applied hot as is tolerable. Echinacea may be painted on the skin first.

The best purgatives for use are calomel (or blue mass), podophyllin and iridin. Follow these with a laxative saline draught. In some cases use in place of the magnesium sulphate a solution of ammonium chloride, 1 ounce to 2 pints of water. We have had success, in some cases, with fluid extract of grindelia and 3-percent solutions of salol, but the measures first suggested will prove effective in practically every instance. In California they use cypripedium, 1 part to 4 parts of water, with perfect success, it is said.

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QUERY 5568.—"Gelseminine as an Anodyne." F., Iowa, inquires whether gelseminine is equal as a pain-reliever to morphine? Does it act as quickly? Should it be given alone or in combination? If the latter, with which agents?

Gelseminine is not to be looked upon as an anodyne proper, but as a good antispasmodic and antipyretic, acting mainly through the spinal cord. It is indicated where there is extreme nervous tension, bright eyes, flushed face. One tablet may be given when the indications for the drug are present, but the dose should rarely be repeated within twelve hours. We have found, however, that a small quantity of gelseminine added to a hypodermic injection of morphine almost doubles the efficacy of the latter drug.

We would urge a perusal of the chapter on gelseminine in "Alkaloidal Therapeutics." Bear in mind the specific indications: flushed face, bright eyes, contracted pupils, restlessness, excitement, headache, increased heat of the head. Administered when these conditions obtain, gelseminine will produce prompt and positive results.

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QUERY 5569.—"Drug-plant Culture." A. S., Ontario, desires to know whether hyoscyamus niger, atropa belladonna and digitalis purpurea, when cultivated in this climate, produce a leaf containing their respective alkaloids in commercial quantities. "I find," he writes, "some difficulty in securing accurate information about the culture of drug-plants suitable to experiment with in this climate. Perhaps you can put me on the track of it."

Johnson & Johnson have been experimenting with hyoscyamus, belladonna, etc., and claim that the American-grown plant produces the alkaloids in satisfactory proportions. We suggest that you write to them for literature. They have issued several very interesting articles on this subject. Digitalis has not been grown successfully in this country, the best article coming from England. Some fairly satisfactory specimens of the plant have been grown in Washington, but we do not think any appreciable quantity of the plant has ever been collected.

We suggest that you address the Superintendent of Documents, Department of Agriculture, Washington, D. C., enclosing 25 cents for postage. You will receive some very interesting booklets, of which the one by Rodney H. True, physiologist in charge of drug-plant investigations, should prove of particular interest. It might be a good idea to write direct to Dr. True. We note in Dr. True's report that the foxglove can be successfully raised in South Carolina and state

of Washington. Belladonna, as he says, does well in a good garden soil, and that cultivation of belladonna on a commercial scale has been taken up successfully during the past two years by an American firm of druggists.

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QUERY 5570.—"Vesical Distress." G. P. H., Indiana, states that he has several patients with distressing bladder symptoms who would be grateful for something that will relieve the condition.

To prescribe, blindfolded, intelligently for "vesical distress" is impossible, for the conditions causing the discomfort or pain must first be recognized. Examine each patient carefully, and send a clinical report together with four ounces of urine from the entire amount passed in 24 hours, stating the total amount voided during that period.

It is quite likely that an underlying acidemia exists, which requires correction. Arbutin, formin, hyoscyamine, collinsonin, hydrastin, barosmin, etc., are all indicated in the disorders which set up distressing bladder symptoms.

The success of the positive therapeutist is due to the fact that he diagnoses closely and gives the right remedy for the condition present in small repeated doses to effect—remedial or physiological.

Naturally distress due to hyperacidity and an inflamed vesical mucosa will not yield to the remedies which would be indicated in cystitis with an alkaline urine. Hyoscine and morphine will, of course, relieve pain, and combined with diuretics and antiseptics generally prove useful in vesical disorders. Asparagin, barosmin, lithium benzoate, etc., have their special indications.

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QUERY 5571.—"Arbutin in Senile Incontinence." H. N., Indiana, wishes to be informed whether arbutin is a positive remedy in the dribbling of urine in the aged?

Arbutin cannot be regarded as a "specific" in the condition named. While this drug is a very useful remedial agent in such conditions, still, in many cases marked by atony of the vesical sphincter it is essential to administer strychnine (preferably the hypophosphite or valerianate) and minute doses of cantharidin. Thuja may be added in some cases with advantage. The urine should always be examined, hyperacidity or alkalinity corrected, and prostatic and rectal disorders attended to.

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QUERY 5572—"Anatomical Textbooks." J. W. C., Alabama, asks whether we would advise an old practician who has let his anatomy grow musty to procure Gray's "Anatomy" or Dr. Pilz's anatomical manikin. A postgraduate course at this time is impossible. Some illustrated work on surgery, dislocations and fractions is also desired.

Gray's "Anatomy" (last edition) unquestionably is valuable, but Piersol's "Human Anatomy" (Lippincott), and Sobotta's (McMurrich) "Atlas and Textbook of Human Anatomy" are more modern and, we think, more definitely instructive works. The price of "Human Anatomy" is seven dollars. Keene's "Surgery" or the "American Textbook" should serve also well. Stewart's "Handbook of Surgery" (published in 1907) is one of the most compact, practical works we know of. Scudder's "Treatment of Fractures and Dislocations" is unequaled. It is published by Saunders Company, and costs $3.50.

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QUERY 5573.—"Removal of Warts." R. B. B., Kansas, wishes to know the best thing to use for the removal of common warts, seed-warts, etc., on hands or feet. A boy patient has a very troublesome wart on one kunckle of his right hand which caustic failed to remove.

Common warts usually yield to the application of specific tincture of thuja and the internal administration of one or two grains of magnesium sulphate several times daily. Another excellent formula is: Paraformaldehyde (Merck), 24 grains; castor oil, 12 minims; collodion, 1 ounce. Apply with a camelshair pencil, shaking well before using. Application should be made every two days or until a considerable layer has formed. This should be removed and the wart filed or scraped away and a new appli-

cation made. This treatment has practically never failed in the writer's hands.

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QUERY 5574.—"Dosage of Calx Iodata." J. H. P., Kentucky, has a patient (boy) 3 1-4 years of age, to whom he gives calcidin in 1-3-grain doses every two hours during the day and every 1-2 hour after supper until he has had four or five doses. He usually continues this treatment for two or three days to control coryza or bronchitis. The doctor wishes to know whether this amount of calcidin is detrimental to the child's health. Also, whether we consider calcidin beneficial in colds where there is a considerable amount of phlegm.

Calx iodata, as here prescribed, should not do harm, but rather it is more likely to prove beneficial. If there is much of bronchial secretion, emetin, scillitin, or apomorphine should be given alternately with calx iodata. We advise you also, doctor, to clean up this child's intestinal canal, bearing in mind that any individual constantly "catching cold" must have some underlying disorder, probably a chronic autotoxemia. A tonic in this case would be beneficial, the arsenates with nuclein, for instance.

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QUERY 5575.—"Trifacial Neuralgia." J. S. L., Pennsylvania, has a patient who has received osmic acid injections three times, relief following which lasted six months. The trouble now has returned and the Doctor considers injections of alcohol, having somewhere read of their efficacy in these conditions, and he asks for specific information concerning this procedure.

Before we can make intelligent suggestions we must have a clearer idea of conditions present in this particular case. Personally we have never used alcoholic injections in trifacial neuralgia. Osmic acid injections sometimes prove effective, but as often fail. In obstinate trigeminal neuralgias medical treatment often fails and surgical procedures—section of the nerve—may remain the only resort.

You do not state whether you have to deal with an unremitting supraorbital neuralgia, reflex neuralgia, or tic douloureux. Supraorbital neuralgias may be constant or intermittent, or the attacks may appear periodically, treatment varying in each of these conditions. There is also a migrainoid type, which appears in adult patients in place of the migraine present in earlier life. Reflex neuralgia persists until the cause is removed, such as diseases of the teeth, changes in the alveolar processes, diseases of the mouth, swelling of the periosteum of the bony canal through which the nerve passes. In this type there is, as a rule, a constant jumping pain, although occasionally the paroxysmsmal attacks will simulate tic douloureux.

Tic is to be sharply distinguished from other neuralgias, as, for instance, that it begins almost always in middle or later life, and is characterized by pain, frequently starting in the upper lip or side of the nose, at times flashing upward along the nerve, or also radiating outward from a central point. The pain is of extreme severity, lasting usually a minute or two and disappearing as abruptly as it came.

During an attack the affected side of the patient's face is flushed, twitching of the muscles occurs, and there may be lacrimation, salivation, and discharge of serum from the nose. If, as we believe, tic is due to degenerative changes in the gasserian ganglion, the latter should be extirpated, in which case the peripheral operation may be tried first.

Aconitine and gelseminine pushed to physiologic effect have given the best results in our hands. Lecithin and calx iodata should be taken for several weeks, while a morning dose of castor oil should also be ordered. During this treatment the galvanic current may be applied with advantage. If such procedures do not avail, operation should be urged, though a great deal depends, in arriving at a decision, upon the age and systemic condition of the affected individual.

We cannot in any way endorse alcohol injections and do not believe that experienced physicians anywhere recommend the procedure.